

Pre School e-Learning

Windows Phone 8 App



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**“In the name of Almighty Allah, the most Gracious, the most
Merciful”**

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Project in Brief

<i>Project Title:</i>	Pre School e-Learning
<i>Undertaken By:</i>	Muhammad Nasir Khan
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<i>Tools, Technologies and language Used:</i>	Visual Studio 2013. C#
<i>System Used:</i>	Core i3, RAM 4 GB
<i>Tested on:</i>	Nokia Lumia 525 (Windows Phone 8.0 & 8.1)

Dedicated to

Our beloved Parents, Teachers, Siblings and Friends without their immense support, endless prayers and strong belief in me, the completion of this project, which is a milestone towards the success they want us to achieve, would have been a mere dream.

Declaration

I hereby declare that this application, neither as a whole nor as a part thereof has been copied out from any source, it is further declared that I have developed this application entirely on the basis of my personal efforts made under the sincere guidance of my supervisor and teachers.

No portion of the work presented in this report has been submitted in support of any application for any other degree or qualification of this or any other institute of learning.

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Preface

This document is distributed into several chapters for the ease of understanding. The chapters are quite comprehensive and explain the terminologies require for the complete understanding of the project. Following are the brief description of the chapters included in this report:

Chapter 1: It gives the brief overview and introduction about the system.

Chapter 2: It gives the analysis of requirements of the system.

Chapter 3: It presents the design process of the system.

Chapter 4: It describes the System Testing.

Chapter 5: It describes the User Manual.

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1. Introduction

The purpose of this application is to teach alphabets to the users over a windows phone 8 or windows phone 8.1. The teaching process of this app is quite similar to the same process used by teachers in the schools.

1.1 Project Overview

Now a day everyone wants online solutions for every task. The reason to this is it's easy to user, efficient and very fast where the chances of failure are very less. This application will also fulfills the user expectations where we will provide more efficiency plus more hard work to teach alphabets correctly. To teach alphabets we will use the same process step by step followed in schools. The first level is Capital Alphabets memorization. In this level first of all an alphabet will be displayed on the screen i.e. A. This alphabet will be pronounced and then user will click on the next button. Upon clicking on the next button another alphabet will be displayed and pronounced i.e. B. Then again user will click on next button and as a result another alphabet will be displayed and pronounced i.e. C. Now as you know those three alphabets has been displayed so now it's time to appear in a test. In the quiz three alphabets will be randomly displayed and the user will be asked to click on one of them. Let's say user is asked to identify C so the user has to click on C. He will ask several times random questions. After passing this quiz another alphabet will be displayed and pronounced and again the user will be redirected towards the quiz and so on. Now after clearing level 1 user will be promoted to level 2. Level 2 is Small alphabets memorization. Level 2 processes are the same as that of level 1. After successful completion of this level user will be promoted to level 3. Level 3 is Alphabets Comparison. In this level the user is supposed to differentiate between capital and small alphabets. In this level one capital and 3 small alphabet will be displayed on the screen. The user is supposed to click on the matching small alphabet. Let's say the capital alphabet is C and small alphabets are a, b and c. so the user has to click on small c as it is matching to the capital alphabet C. After successfully completing this level user will be promoted to level 4 which is Alphabets Ordering. In this level 3 randomly alphabets will be displayed which maybe or may not be in order. But the user will give them an ascending order. Again this level also contains quizzes. Then at level 5 which is Advance Alphabets Ordering. In

this level, 6 randomly generated alphabets will be displayed and the user will arrange them in ascending order. After this level here comes the final stage of this application which is Level 6 Speech Recognition. The mechanism of this level is very simple. An alphabet will be displayed on the screen and system will pronounce it. Now it will ask the user to pronounce it. At this level the voice will be rejected in two cases i.e. if he said something else other than the question asked or if his pronounced voice quality is less than Rejected.

1.2 The Idea

The idea comes from Rosetta stone. Rosetta stone is well-known and familiar software for language learning. Using Rosetta stone you can learn more than 36 languages. I installed it for my elder's sister for English learning but soon I also got engaged with it because the way they are teaching language is very resembling to the way teachers are teaching us in school. First of all we memorize there shape then we moved to write then to speak then to use these words in our sentences. So an idea clicked in to my mind that why not I should also copy the same process but in a different way. And here its outcome is in a form of a windows phone 8 application i.e. Pre School e-Learning.

1.3 Problem Statement

The Rosetta stone is good software but it is used to teach words of several languages. So a user who is totally uneducated he/she can't use this software because he don't know the alphabets. Rosetta stone starts from "A Boy" along with image. So if a user doesn't know the alphabets then how can he write this? So we have to teach him the alphabets first then he/she will be able to learn words and sentences using Rosetta stone.

1.4 Proposed Solution

As you know that the existing system “Rosetta stone” is for mature users who know alphabets or familiar with the Computer so they can use it but for those who are totally un-educated they can’t use it. So I developed this app to teach alphabets to users. My targeted users are under the age of 5 so that at this age they should use to with the modern technologies and they should realize that computer and mobile phones are not only for games and movies we can use it in a good way as well.

1.5 Project Scope

Preschool e-Learning will fulfill today’s student’s needs. It is already mentioned that there was not any existing software which follows the same mechanism as that of Rosetta stone which is quite similar to the natural process so I decided to create an app which will have the same mechanism and same process as that of Rosetta stone but will teach alphabets and I hope that it will be a Time to Market application because at this time there is not a single application which is teaching alphabets step by step just like I did in this app.

1.6. MAIN MODULES

1.6.1. Capital Alphabets Memorization

In this level first of all an alphabet will be displayed on the screen i.e. A. This alphabet will be pronounced and then user will click on the next button. Upon clicking on the next button another alphabet will be displayed and pronounced i.e. B. Then again user will click on next button and as a result another alphabet will be displayed and pronounced i.e. C. Now as you know those three alphabets has been displayed so now it’s time to appear in a test. In the quiz three alphabets will be randomly displayed and the user will be asked to click on one of them. Let’s say user is asked to identify C so the user has to click on C. He will ask several times random questions. After passing this quiz another alphabet will be displayed and pronounced and again the user will be redirected towards the quiz and so on.

1.6.2. Small Alphabets Memorization

Level 2 processes are the same as that of level 1. The only difference is Level 1 teaches Capital alphabets while the level 2 is teaching small alphabets. After successful completion of this level user will be promoted to level 3.

1.6.3. Alphabets Comparison

In this level the user is supposed to differentiate between capital and small alphabets. In this level one capital and 3 small alphabet will be displayed on the screen. The user is supposed to click on the matching small alphabet. Let's say the capital alphabet is C and small alphabets are a, b and c. so the user has to click on small c as it is matching to the capital alphabet C. After successfully completing this level user will be promoted to level 4 which is Alphabets Ordering.

1.6.4. Alphabets Ordering

In this level 3 randomly alphabets will be displayed which maybe or may not be in order. But the user will give them an ascending order. Again this level also contains quizzes. For the first time three alphabets A, B and C will be included into user's course. Then after successfully passing quizzes another alphabet will be added to his/her course. One alphabet from the start will be deducted and one alphabet at the end will be added i.e. from A, B and C the system will deduct A as it is its first alphabet and will add D at the end so the new series will be B, C and D.

1.6.5. Advance Alphabets Ordering

In this level, 6 randomly generated alphabets will be displayed and the user will arrange them in ascending order. Again this level also contains quizzes. For the first time six alphabets A, B, C, D, E and F will be included into user's course. Then after successfully passing quizzes another alphabet will be added to his/her course. One alphabet from the start will be deducted and one alphabet at the end will be added i.e. from A, B, C, D, E and F the system will deduct A as it is its first alphabet and will add G at the end so the new series will be B, C, D, E, F and G.

1.6.6. Speech Recognition

The mechanism of this level is very simple. An alphabet will be displayed on the screen and system will pronounce it. Now it will ask the user to pronounce it. At this level the voice will be rejected in two cases i.e. if he said something else other than the question asked or if his pronounced voice quality is less than Rejected.

1.6.7. Check Level

The main role of this module is to find out the last session of the user and upon calling this module, user should be redirected to the same level and to the same alphabets within that level where last time he/she was. After the user entered to any of the given level the second role of this module is to save his last session so that next time the app should redirect him to the same level without any inconvenience.

2. Requirement Analysis

This chapter describes the analysis model of the system it explains the problem domain. Requirements of the system use cases and actors. It is the first step of SDLC.

Requirements are the things or functions or more accurately services that should be delivered by the system. We cannot have the perfect program that does not do whatever the user wanted. It is the process of discovering, refinement, modeling and specification

2.1 Actor Goal List

NAME	DESCRIPTION	RESPONSIBILITIES
User	Who owns Windows Phone 8 or Windows Phone 8.1	1. Can Learn Capital Alphabets Memorization 2. Can Learn Small Alphabets Memorization 3. Can Learn difference between capital and small alphabets 4. Can Learn Alphabets Order 5. Can Learn Exact Alphabets Pronunciation

Table 2.1 Actor Goal List

2.2 Use Cases Diagram

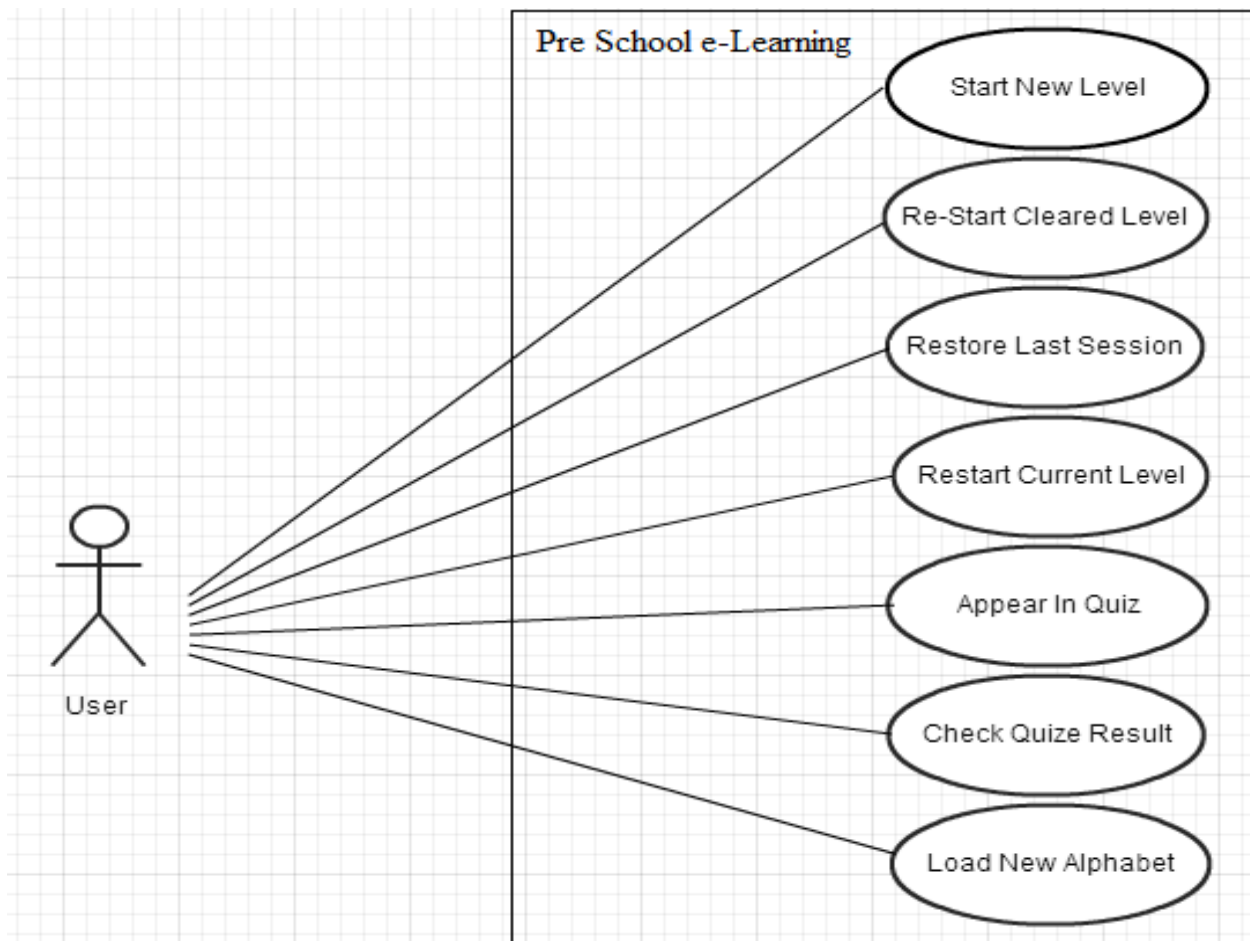


Figure 2.2 Use Cases Diagram

2.3 Brief Use cases

2.3.1 UC.1 Start New Level

This use case starts when user will successfully clear the current Level. User has completed one level and hits the “Next” button. As a response of this system will by default promotes him to the next level. Please keep in mind that next level will be enabled only if user successfully cleared the current level.

2.3.2 UC.2 Restart Cleared Level

This use case starts when User hits an already cleared level. For example user has cleared 3 levels and now he/she is in level 4 but he/she wants to play one of the previous level again so now he will clicked on let’s say level 2. Now in this case his/her last session will be changed to level 2 but again any time he/she can jumps to level 4 because the user has already enabled level 4.

2.3.3 UC.3 Restore Last Session

This use case starts when User hits the Restore Last Session button from the main menu. For example user was in level 4 at alphabet ‘T’ so now he will be automatically redirected towards level 4. After redirecting level 4, this level will not starts from the start but will take a start from where he lefts last time i.e. ‘T’.

2.3.4 UC.4 Restart Current Level

This use case starts when User will hit the “Restart Level” button from inside of any level. As a result that level will be restarted from the beginning and his/her last session will be updated to beginning as well.

2.3.5 UC.5 Appear In Quiz

This use case starts when User will complete his/her today lesson and now the next step is to appear in test. For example user was in level 1. In level one user will be taught 3 alphabets. These three alphabets are his/her today's lesson. So when these three alphabets have been taught to the user and he clicked on next button. Now in this case he will be redirected towards quiz. If he passed the exam then more alphabets will be added else he will not be promoted.

2.3.6 UC.6 Check Quiz Result

During quiz system will announce result after each question. If the answer was right then system will show a message "Excellent" and will speak as well. While in case of any error system will display a message that "You clicked on wrong Alphabet" and a spoken message as well "Wrong! Please try again".

2.3.7 UC.7 Load New Alphabet

After successfully passing exam user will be allowed to load new alphabet to his/her course. For example user was in level 4 and he passed exam from A to G. So now he will be allowed to add another alphabet to his/her course and upon hitting the Next button, a new alphabet will be added to his/her course.

2.4 Fully Dress UC

2.4.1 Start New Level

- **Description and priority**

Goal in context	User wants to load new level.
Use Case Name	Start New Level.
Pre-Condition	User completes previous level.
Success and conditions	New level has been loaded.
Failed Condition	New level is not loaded.
Primary Actor	User
Trigger Event	User Completed Current level & hits next button

- **Main Success Scenario**

Sr. #	Actor	System response
1	User completes Current level.	A button named “Next” will be displayed.
2	User hits the “Next” button	User has been redirected to Next Level

Table 2.4.1 use case: Start New Level

Alternative Flows and Extensions:

***a: Current level is not cleared.**

1. User does not yet passed the final exam
2. User completes the level but hits the “Back” Button.

2.4.2 Restart Cleared Level

- **Description and priority**

Goal in context	User wants to restart one of the passed levels.
Use Case Name	Restart Cleared Level.
Pre-Condition	User is on main page and cleared one or more levels.
Success and conditions	Cleared level has been restarted.
Failed Condition	Cleared level has not restarted.
Primary Actor	User.
Trigger Event	User hits on one of the Cleared level.

- **Main Success Scenario**

Sr. #	Actor	System response
1	User hits on one of the Cleared level button.	Level has been started from the beginning.
2		Last session has been updated to beginning.

Table 2.4.2 use case: Restart Cleared Level.

Alternative Flows and Extensions:

***a: Desired level is not yet completed.**

1. Level will be started from where user lefts last time.

2.4.3 Restore last Session

- **Description and priority**

Goal in context	User wants to restart from where last time he/she lefts.
Use Case Name	Restore last session.
Pre-Condition	User is on the main page of the app.
Success and conditions	Last session has been restored.
Failed Condition	Last session is not restored.
Primary Actor	User.
Trigger Event	User hits “Restore Last Session” button from Main Page of the app.

- **Main Success Scenario**

Sr. #	Actor	System response
1	User hits the “Restore Last Session” button	System gets data from “checkLevel” class.
2		User is successfully redirected towards his/her last session.

Table 2.4.3 use case: Restore Last Session.

Alternative Flows and Extensions:

***a: Last session was not saved.**

1. Level 1 will starts from the beginning.

2.4.4. Restart Current Level

- **Description and priority**

Goal in context	User wants to restart the current level.
Use Case Name	Restart Current Level.
Pre-Condition	User is playing one of the given levels.
Success and conditions	Current level has been restarted.
Failed Condition	Current level has not restarted.
Primary Actor	User.
Trigger Event	User hits the restart option.

- **Main Success Scenario**

Sr. #	Actor	System response
1	User hits “Restart Level” button.	Level has been started from the beginning.
2		Last session has been updated to beginning.

Table 2.4.4 use case: Restart Current Level.

2.4.5. Appear in Quiz

- **Description and priority**

Goal in context	User wants to appear in test.
Use Case Name	Appear in Quiz.
Pre-Condition	User has completed his today's lesson.
Success and conditions	User is successfully redirected towards quiz.
Failed Condition	User is not successfully redirected towards quiz.
Primary Actor	User.
Trigger Event	User hits "Next" button.

- **Main Success Scenario**

Sr. #	Actor	System response
1	User hits the "Next" button.	App displays a popup "You cannot move forward before appearing in a quiz".
2	User press the OK button	User has been redirected towards quiz.

Table 2.4.5 use case: Appear in Quiz.

Alternative Flows and Extensions:

***a: Course has not yet completed.**

1. User is allowed to appear in test only if he/she has lessons more than 3.

2.4.6. Check Quiz Result

- **Description and priority**

Goal in context	User submitted his answer and wants to check its result.
Use Case Name	Check Quiz Result.
Pre-Condition	User answered a question.
Success and conditions	Quiz result has been successfully announced.
Failed Condition	Quiz result are not announced.
Primary Actor	User
Trigger Event	User hits one of the answers.

- **Main Success Scenario**

Sr. #	Actor	System response
1	User selects an answer.	System checks either it is right or not.
		System will announce the result of this question.

Table 2.4.6 use case: Check Quiz Result.

Alternative Flows and Extensions:

***a: User hits the back key.**

2.4.7. Load New Alphabet

- **Description and priority**

Goal in context	User wants to load new alphabet to his/her course.
Use Case Name	Load New Alphabet.
Pre-Condition	User is playing one of the given levels.
Success and conditions	New Alphabet has been loaded.
Failed Condition	New Alphabet is not loaded.
Primary Actor	User
Trigger Event	User hits the “Next” button.

- **Main Success Scenario**

Sr. #	Actor	System response
1	User hits the “Next” button.	System will do an increment in his/her course and will load another alphabet to the user’s course.
2	Admin enter first name	New alphabet has been loaded successfully.

Table 2.4.7 use case: Load New Alphabet.

Alternative Flows and Extensions:

***a:** User was at alphabet ‘Z’ so instead of loading new alphabet, new level will be loaded.

2.5. Domain Model Entities

Domain model consists of different attributes, classes, entities and processes, which gathered from the use cases written above in chapter 2.

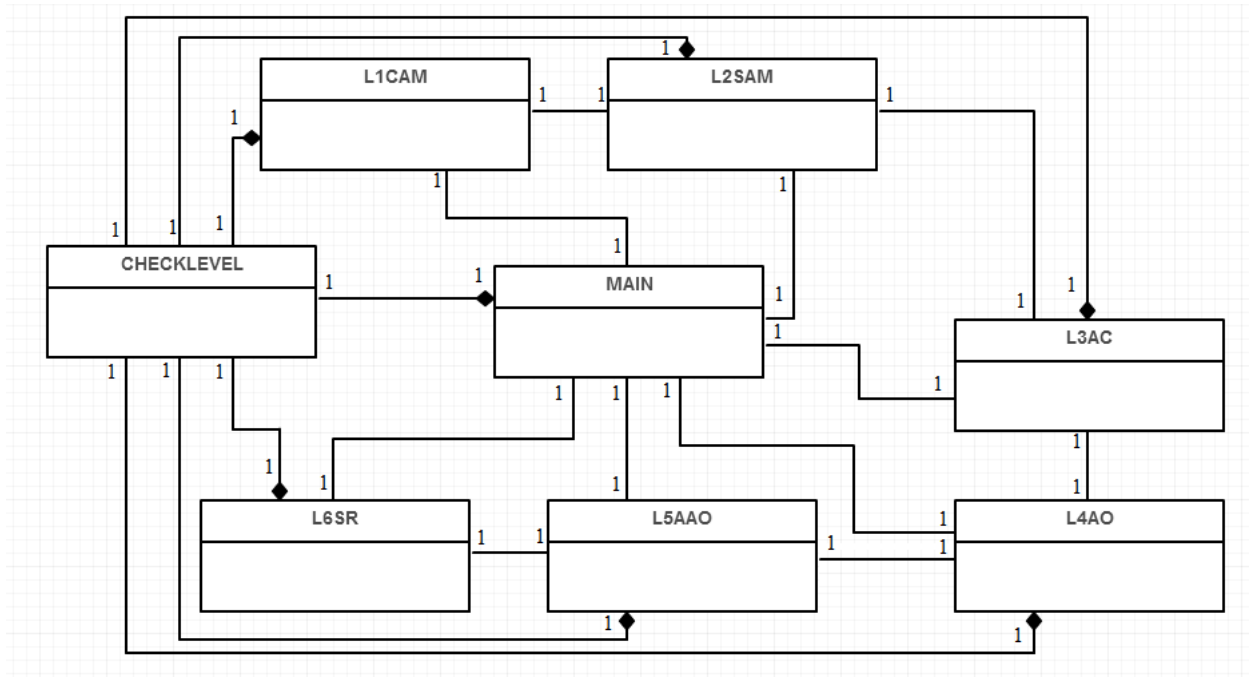


Figure 2.5 Domain Model Entities

3. System Design

The system is completely described in the analysis model and the system design is the first step toward the designing of the system. System design provides us with detailed diagrams of the system which is then implemented. System design results in the following diagrams.

System design is the transformation of the analysis model into a system design model. In the system design the design goals of the project are defined.

The goal of system design is to establish a design approach that provides the functions that are described in the system requirements.

There are some diagrams that describe the flow of the system:

1. Sequence Diagram
2. Activity Diagram
3. Class Diagram

3.1 Sequence Diagrams

System sequence diagrams show user interaction with system at abstract level. Following are the system sequence Diagrams of this System.

3.1.1. Start New Level

Main Success Scenario

1. User answered a question and hits next button.
2. System will check for the quiz result
3. New Level has been loaded successfully.

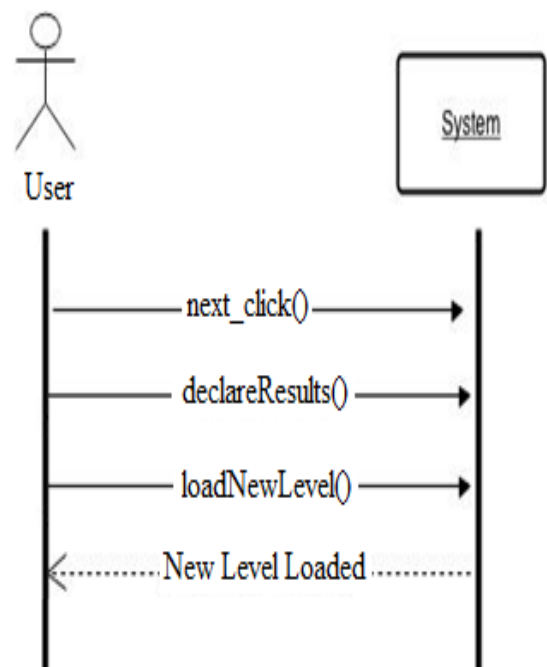


Figure 3.1.1 Start New Level

3.1.2 Restart Cleared Level

Main Success Scenario

1. User hits one of the cleared levels.
2. Desired Level will be started from the beginning.
3. Level has been loaded successfully.

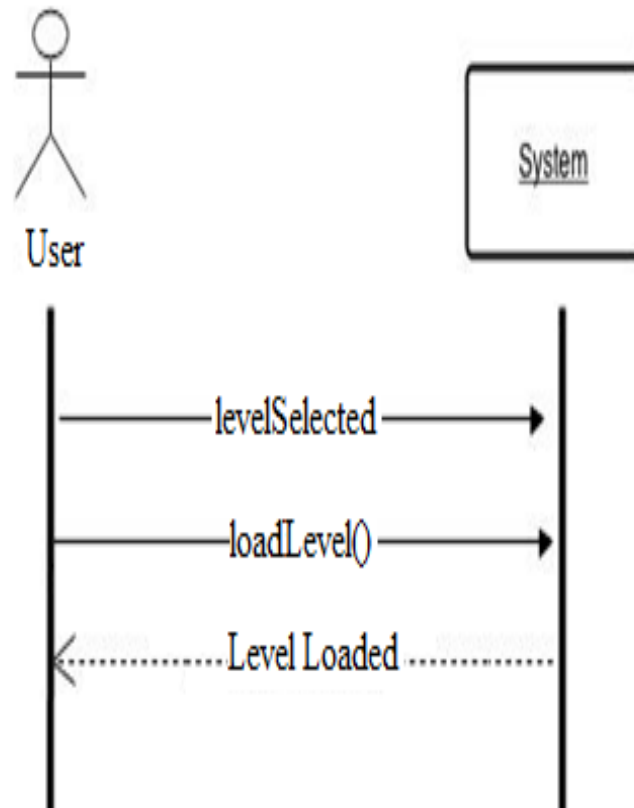


Figure 3.1.2 Restart Cleared Level

3.1.3 Restore Last Session

Main Success Scenario

1. User hits the “Restore Last Session” button from main menu.
2. System gets record from checkLevel class.
3. Last session has been successfully loaded.

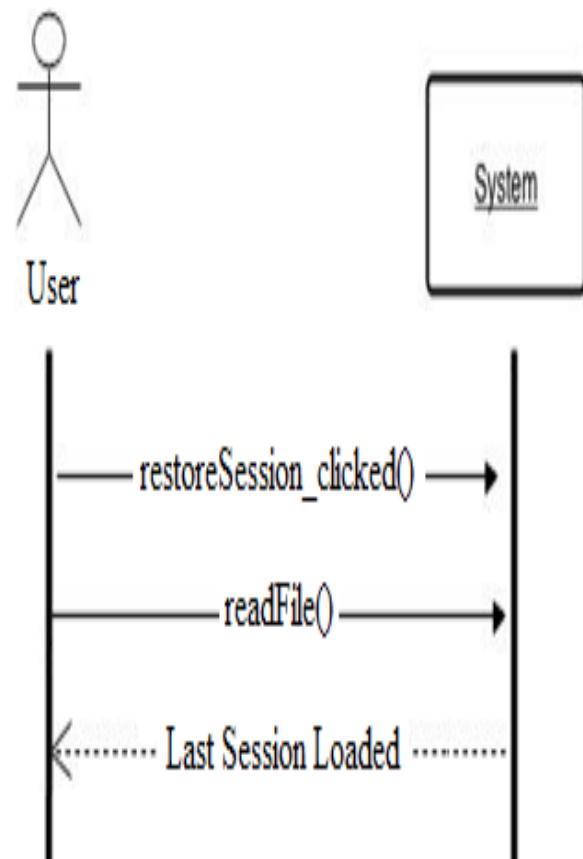


Figure 3.1.3 Restore Last Session

3.1.4 Restart Current Level

Main Success Scenario

1. User is playing a level.
2. User hits Restart level button.
3. Last Session has been updated.
4. Level has been restarted successfully.

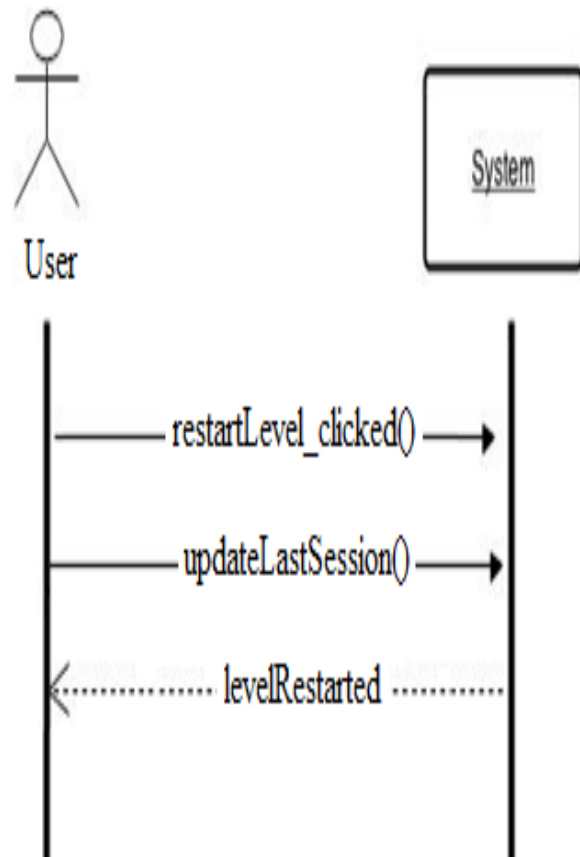


Figure 3.1.4 Restart Current Level

3.1.5 Appear in Quiz

Main Success Scenario

1. User completes his today's lessons.
2. User hits the "Next" button.
3. A message has been displayed "You cannot move further without appearing in the test".
4. User hits the OK button.
5. Quiz has been started successfully.

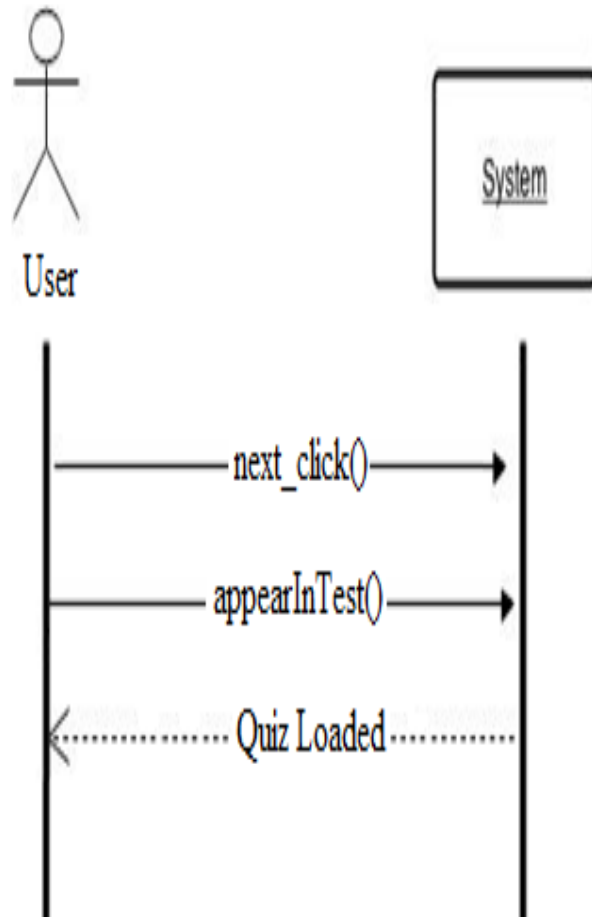


Figure 3.1.5 Appear in Quiz

3.1.6 Check Quiz Result

Main Success Scenario

1. User selects one of the given answers.
2. System will show and speak a message “Excellent” in case of right and “Wrong! Try Again” in case of wrong answer.
3. Quiz result has been successfully displayed.

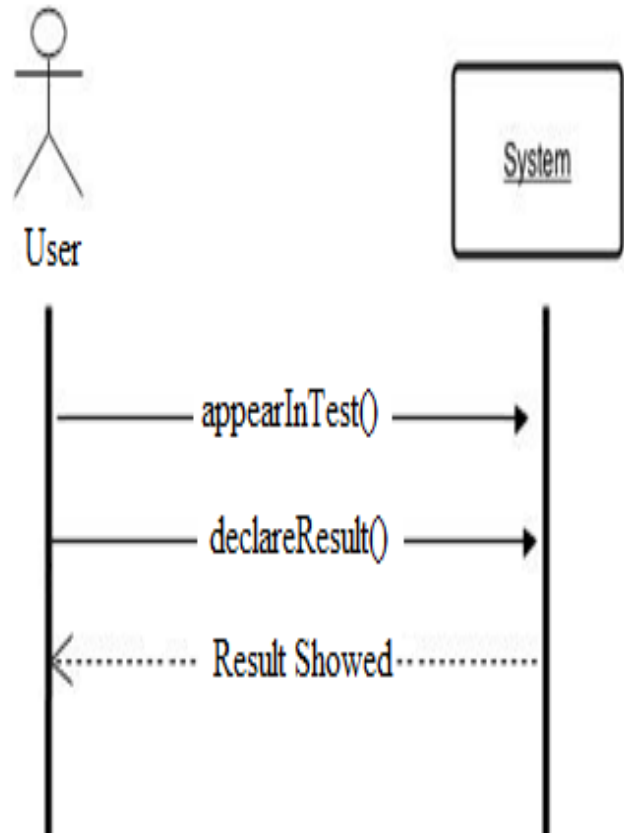


Figure 3.1.6 Check Quiz Result

3.1.7 Load New Alphabet

Main Success Scenario

1. User passed the exam.
2. User hits the “Next” button.
3. New alphabet has been loaded.

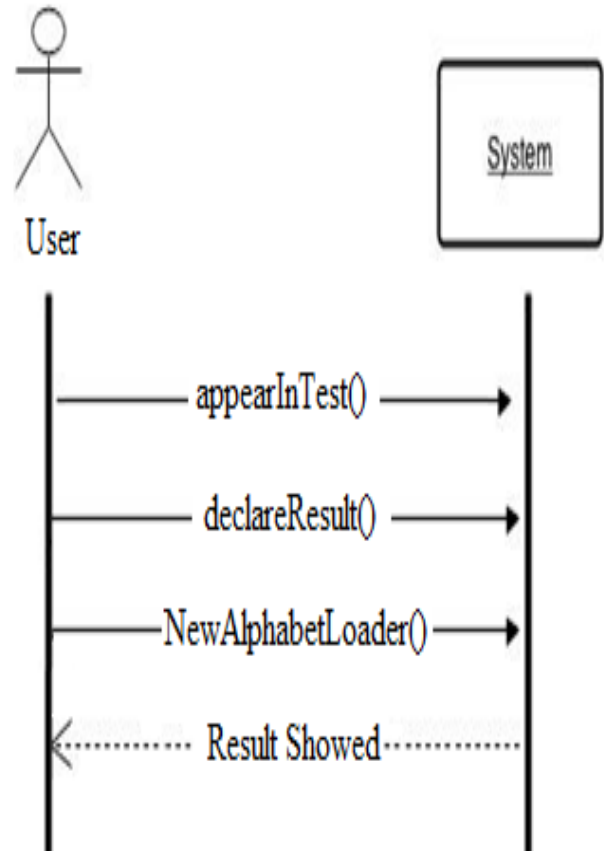


Figure 3.1.7 Load New Alphabet

3.2. Activity Diagram

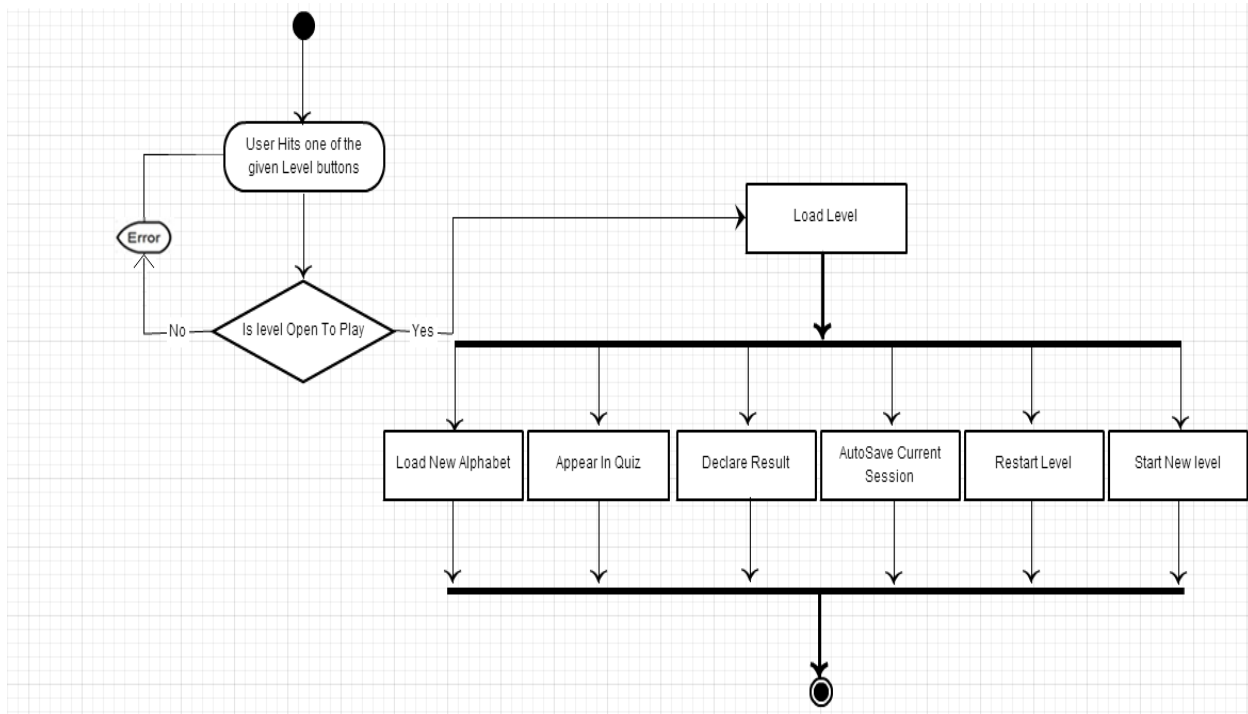


Figure 3.2 Activity Diagram

3.3 Classes

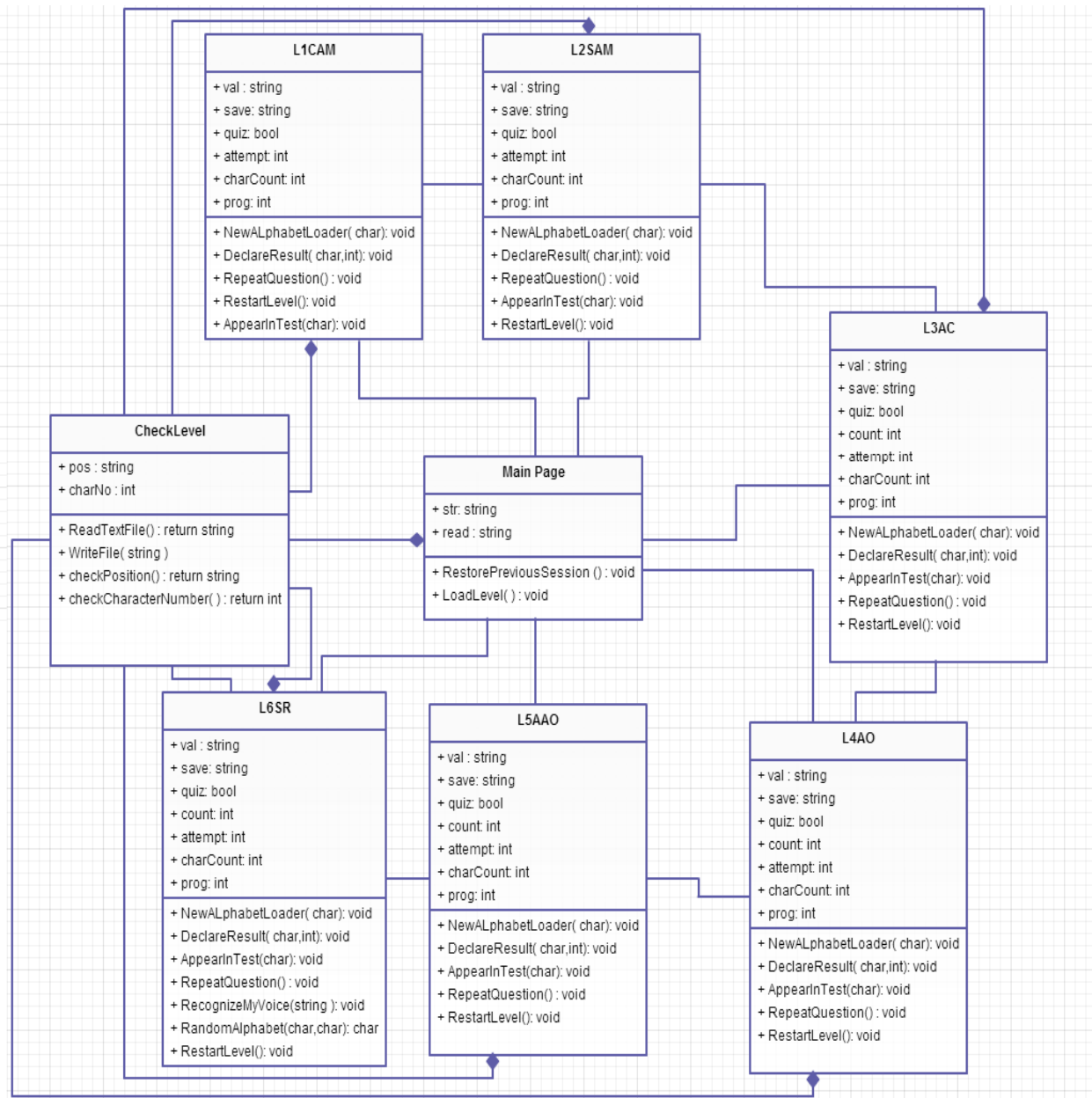
The class diagram is the main building block of object oriented modeling. It is used both for general conceptual modeling of the systematics of the application, and for detailed modeling translating the models into programming code. Class diagrams can also be used for data modeling. The classes in a class diagram represent both the main objects, interactions in the application and the classes to be programmed.

In object-oriented programming, a **class** is an extensible program-code-template for creating objects, providing initial values for state (member variables) and implementations of behavior (member functions, methods). In many languages, the class name is used as the name for the class (the template itself), the name for the default constructor of the class (subroutine that creates objects), and as the type of objects generated by the type, and these distinct concepts are easily conflated.

When an object is created by a constructor of the class, the resulting object is called an instance of the class, and the member variables specific to the object are called instance variables, to contrast with the class variables shared across the class.

In some languages, classes are only a compile-time feature (new classes cannot be declared at runtime), while in other languages classes are first-class citizens, and are generally themselves objects (typically of type Class or similar). In these languages, a class that creates classes is called a “Meta Class”.

3.3.1 Class Diagram



4. Testing

Software Testing is the process used to help identify the correctness, completeness, security, and quality of developed computer software. Testing is a process of technical investigation, performed on behalf of stakeholders, that is intended to reveal quality-related information about the product with respect to the context in which it is intended to operate. This includes, but is not limited to, the process of executing a program or application with the intent of finding errors. Quality is not an absolute; it is value to some person. With that in mind, testing can never completely establish the correctness of arbitrary computer software; testing furnishes a criticism or comparison that compares the state and behavior of the product against a specification. An important point is that software testing should be distinguished from the separate discipline of Software Quality Assurance (SQA), which encompasses all business process areas, not just testing.

There are many approaches to software testing, but effective testing of complex products is essentially a process of investigation, not merely a matter of creating and following routine procedure. One definition of testing is "the process of questioning a product in order to evaluate it", where the "questions" are operations the tester attempts to execute with the product, and the product answers with its behavior in reaction to the probing of the tester[citation needed]. Although most of the intellectual processes of testing are nearly identical to that of review or inspection, the word testing is connoted to mean the dynamic analysis of the product putting the product through its paces. Some of the common quality attributes include capability, reliability, efficiency, portability, maintainability, compatibility and usability. A good test is sometimes described as one which reveals an error; however, more recent thinking suggests that a good test is one which reveals information of interest to someone who matters within the project community.

White box and black box testing are terms used to describe the point of view a test engineer takes when designing test cases. Black box is being an external view of the test object and white box being an internal view. Software testing is partly intuitive, but largely systematic. Good testing involves much more than just running the program a few times to see whether it works.

Thorough analysis of the system under test, backed by a broad knowledge of testing techniques and tools are prerequisites to systematic testing. Software Testing is the process of executing software in a controlled manner; in order to answer the question “Does this software behave as specified?” Software testing is used in association with Verification and Validation. Verification is the checking of or testing of items, including software, for conformance and consistency with an associated specification. Software testing is just one kind of verification, which also uses techniques as reviews, inspections, walk-through. Validation is the process of checking what has been specified is what the user actually wanted.

Here I did Software Quality Assurance testing and attached all the snaps to it, one by one I am going to explain it. In this testing I get a lot of issues like alignment issues and some other minor and major issues. Which are fixed in Software Quality Assurance process?

4.1. System Testing

Well I test my system in different techniques of testing which gave me different successful result which is shown below in the matrix and figures. The techniques of testing that are used in the testing of this testing are black box and white box testing.

4.2. Trace-ability Test Matrix

Test Case ID	Test Case	Result
1	Actor views the application in every resolution device like Nokia Lumia 525, Nokia Lumia 520, Nokia Lumia 620, or any other windows mobile device with different User Interface.	Passed
2	Last session is successfully updated.	Passed
3	Confirm that user cannot move forward until he does not appears in quiz.	Passed
4	Confirm that user cannot start next level until he does not complete current level.	Passed
5	Confirm that user gets error message on selecting wrong answer.	Passed
6	Confirm that user gets a message on selecting right answer.	Passed
7	Confirm that user gets right combination according to his course.	Passed

4.3. Responsiveness

Test Case ID	Test-1		
Functional Area/Module	Responsiveness		
Purpose:	Actor can view the application in every type of resolution device like Nokia Lumia 525, Nokia Lumia 520, Nokia Lumia 620, or any other windows mobile device with different User Interface.		
Actions to perform	1. Open app on device.		
Tester	Muhammad Nasir Khan	Test case version	1.0
Environment	Windows Phone 8.1 Nokia Lumia 525	Status	Pass
Result (s) Expected			
App resolution is responsive and works accurately on each device.			
Comments: Test passed successfully.			

4.4. Message on Selecting Right Answer

Test Case ID	Test-2		
Functional Area/Module	Validation message		
Purpose:	Actor gets a message on selecting right answer from the given answers.		
Actions to perform	1. Select right answer from given answers.		
Tester	Muhammad Nasir Khan	Test case version	1.0
Environment	Windows Phone 8.1 Nokia Lumia 525	Status	Pass
Result (s) Expected			
Message displayed showing “Excellent!”			
Comments: Test passed successfully.			

4.5. Message on Selecting Wrong Answer

Test Case ID	Test-3		
Functional Area/Module	Validation message		
Purpose:	Actor gets a message on selecting wrong answer from the given answers.		
Actions to perform	1. Select wrong answer from given answers.		
Tester	Muhammad Nasir Khan	Test case version	1.0
Environment	Windows Phone 8.1 Nokia Lumia 525	Status	Pass
Result (s) Expected			
Message displayed showing “Wrong! Try again”			
Comments: Test passed successfully.			

4.6 Quiz Questions

Test Case ID	Test-4		
Functional Area/Module	Avoid out of course questions		
Purpose:	Confirm that there is not a single question out of user's course.		
Actions to perform	1. User hits the next button. 2. User is appeared in a quiz.		
Tester	Muhammad Nasir Khan	Test case version	1.0
Environment	Windows Phone 8.1 Nokia Lumia 525	Status	Pass
Result (s) Expected			
Questions are selected from the user's course.			
Comments: Test passed successfully.			

4.7. Checking Order of Alphabets

Test Case ID	Test-5		
Functional Area/Module	Alphabets Alignment		
Purpose:	Verify that alphabets are added to user's course in ascending order.		
Actions to perform	1. User hits the next button. 2. After an increment to his current alphabet next alphabet is added to his course.		
Tester	Muhammad Nasir Khan	Test case version	1.0
Environment	Windows Phone 8.1 Nokia Lumia 525	Status	Pass
Result (s) Expected			
Alphabets are added to user's course in ascending order.			
Comments: Test passed successfully.			

4.8. Start New Level

Test Case ID	Test-6		
Functional Area/Module	Start New Level		
Purpose:	Verify that new level is loaded successfully.		
Actions to perform	1. User appeared in quiz. 2. User hits the next button. 3. After successfully passing quiz user is promoted to next level.		
Tester	Muhammad Nasir Khan	Test case version	1.0
Environment	Windows Phone 8.1 Nokia Lumia 525	Status	Pass
Result (s) Expected			
New level is loaded successfully.			
Comments: Test passed successfully.			

4.9. Restart Cleared Level

Test Case ID	Test-7		
Functional Area/Module	Testing the restart of already cleared level.		
Purpose:	Verify that restart Cleared level is working.		
Actions to perform	1. User hits one of the cleared levels.		
Tester	Muhammad Nasir Khan	Test case version	1.0
Environment	Windows Phone 8.1 Nokia Lumia 525	Status	Pass
Result (s) Expected			
Requested level is restarted from the beginning.			
Comments: Test passed successfully.			

4.10. Restart Current Level

Test Case ID	Test-8		
Functional Area/Module	Testing the restart functionality of current level.		
Purpose:	Verify that restart button of current level is working.		
Actions to perform	1. User hits restart level button.		
Tester	Muhammad Nasir Khan	Test case version	1.0
Environment	Windows Phone 8.1 Nokia Lumia 525	Status	Pass
Result (s) Expected			
Current level is restarted from the beginning. User Previous session is updated.			
Comments: Test passed successfully.			

5. User Manual

A user guide or user's guide, also commonly known as a manual, is a technical communication document intended to give assistance to people using a particular system. It is usually written by a technical writer, although user guides are written by programmers, product or project managers, or other technical staff, particularly in smaller companies.

User guides are commonly associated with each software. Most user guides contain both a written guide and the associated images. In the case of computer applications, it is usual to include screenshots of the human-machine interface(s), and hardware manuals often include clear, simplified diagrams. The language used is matched to the intended audience, with jargon kept to a minimum or explained thoroughly.

The sections of a user manual often include:

- A cover page
- A title page and copyright page
- A preface, containing details of related documents and information on how to navigate the user guide
- A contents page
- A guide on how to use at least the main functions of the system
- A troubleshooting section detailing possible errors or problems that may occur, along with how to fix them
- A FAQ (Frequently Asked Questions)
- Where to find further help, and contact details
- A glossary and, for larger documents, an index

5.1. Main Page

This is the main page of Pre School e-Learning. Where user will start from Level 1 and will keep learning to level 6.

The figure is as following:

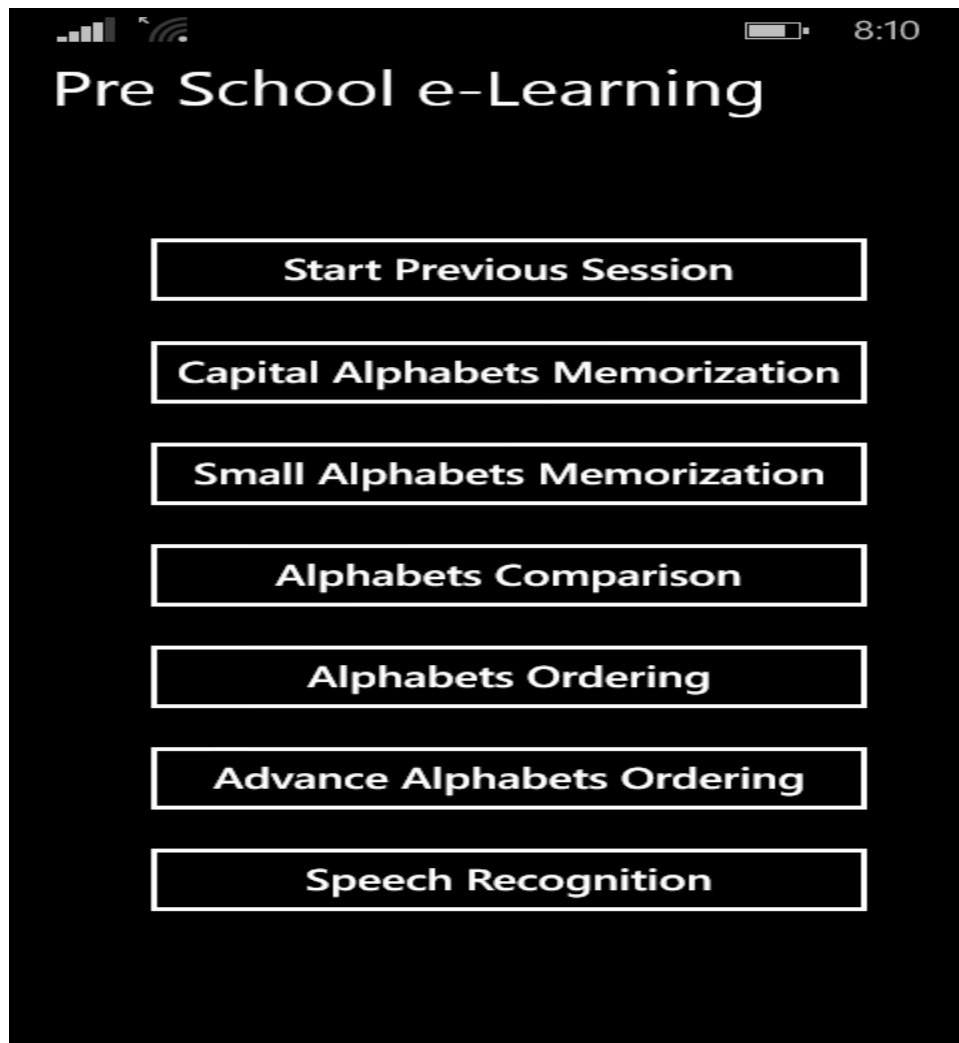


Figure 5.1 App Main Page

5.2. Level 1 Startup

This is the main view of Level 1 startup page. Here user can learn Capital Alphabets from A to Z.

The figure is as following:

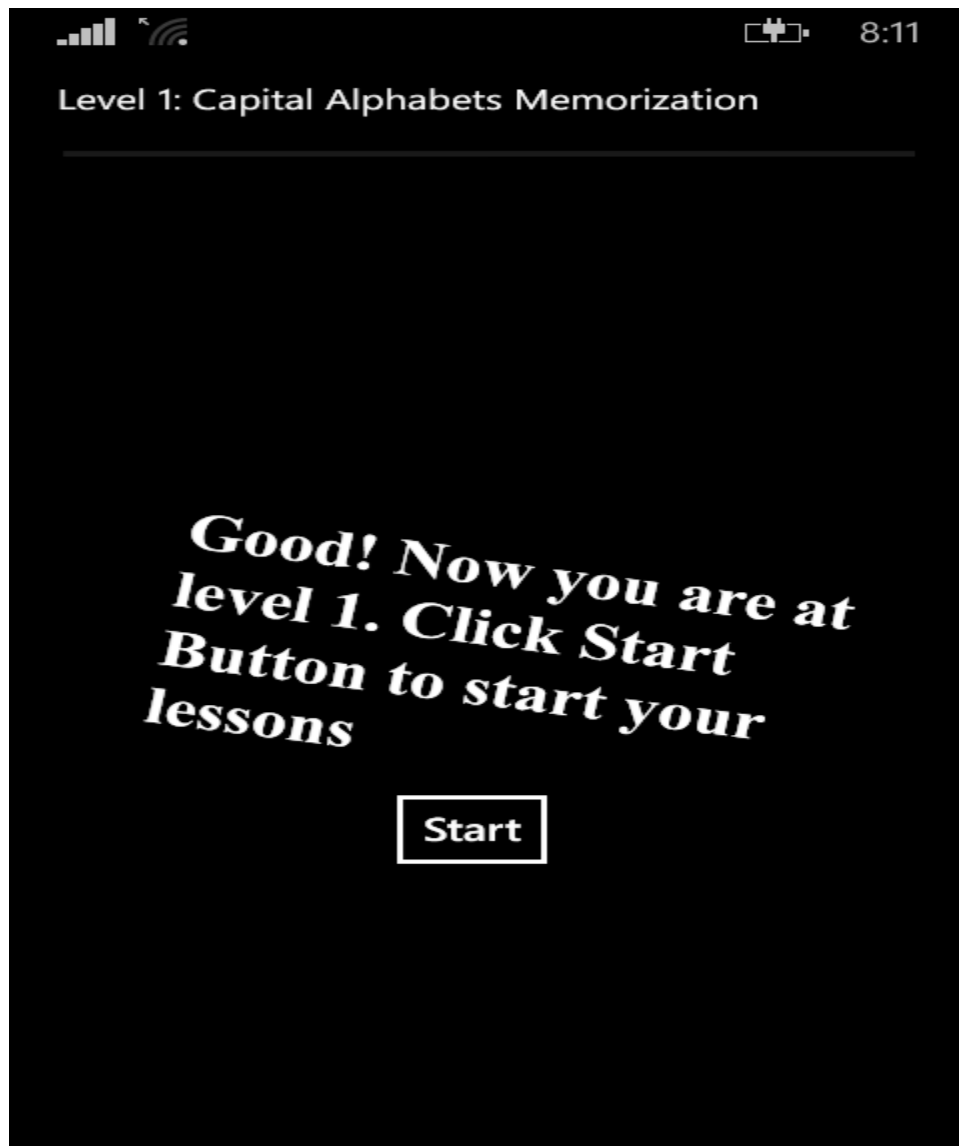


Figure 5.2 Level 1 Startup

5.3. Starting Level 1

Level 1 is the place where user can learn and memorize Capital Alphabets from A to Z. This level contains quizzes as well. It is adding alphabets in ascending order.

The figure is as following:

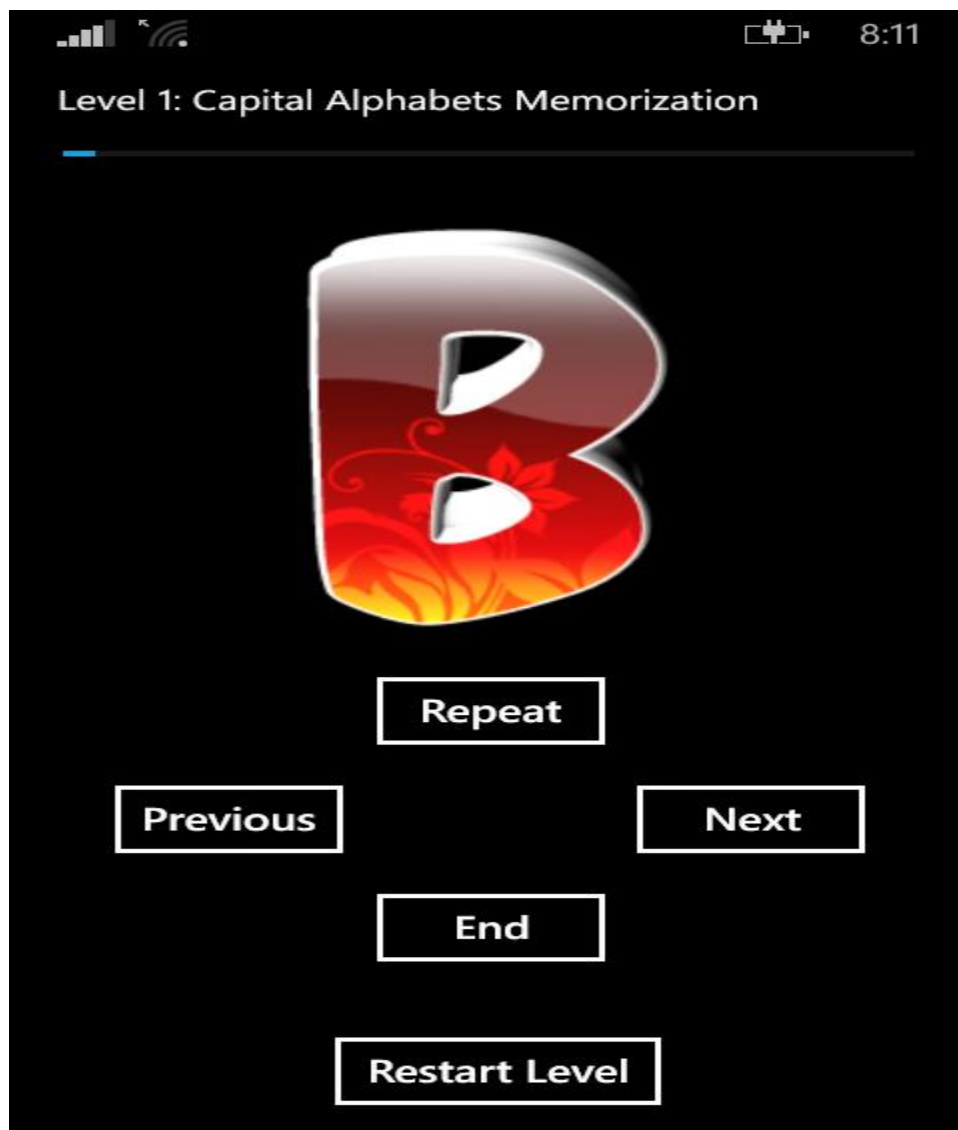


Figure 5.3 Level 1

5.4. Level 1 Quiz

This is the screenshot of quiz from Level 1. In level 1 quiz 3 alphabets will be displayed and then system will pronounce one of them. The user is supposed to click on the right one.

The figure is as following:

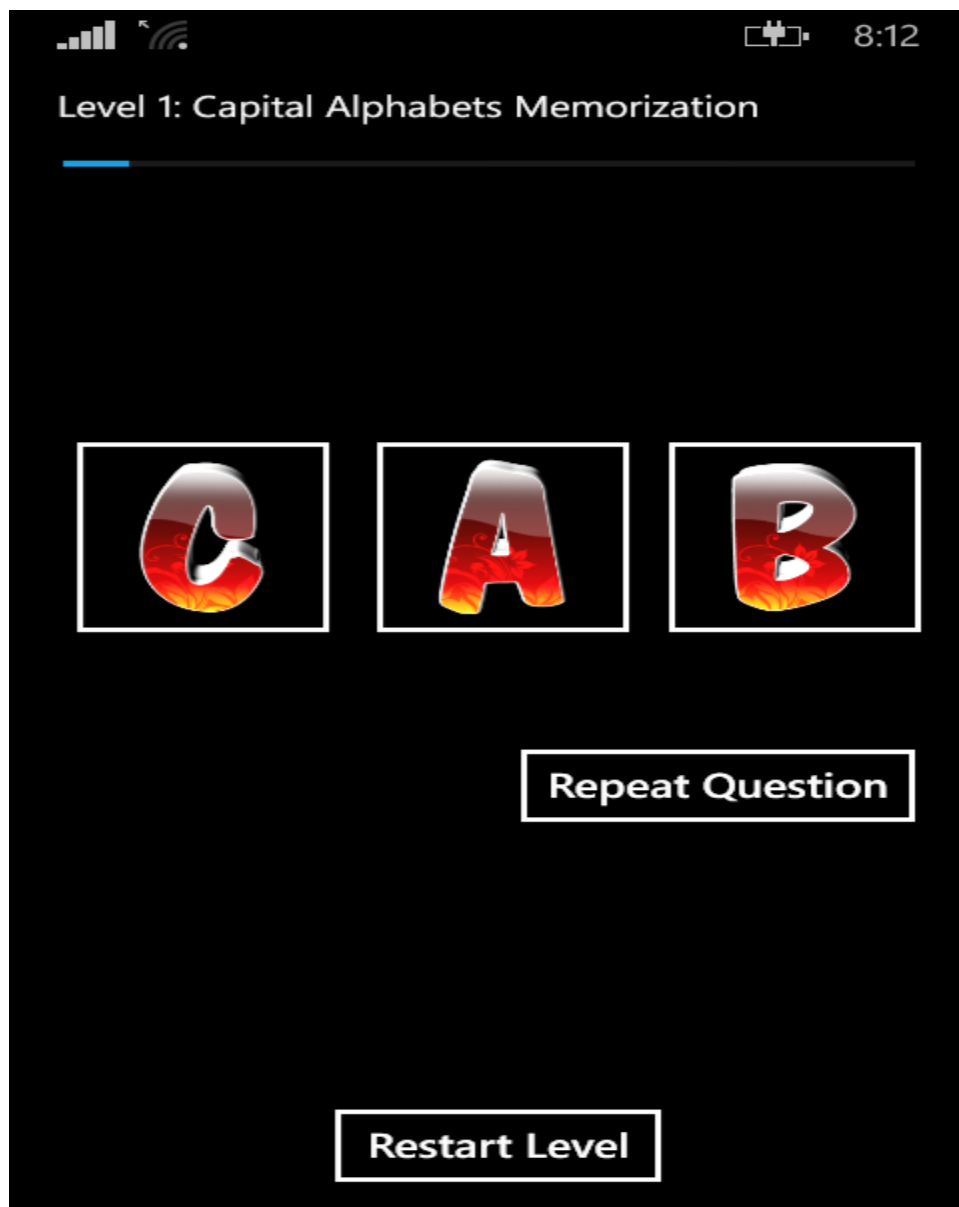


Figure 5.4 Level 1 Quiz

5.5. Level 1 Quiz Selecting Right Answer

In this level after selecting one of the given answer if the answer is right then system will display and message “Excellent”.

The figure is as following:

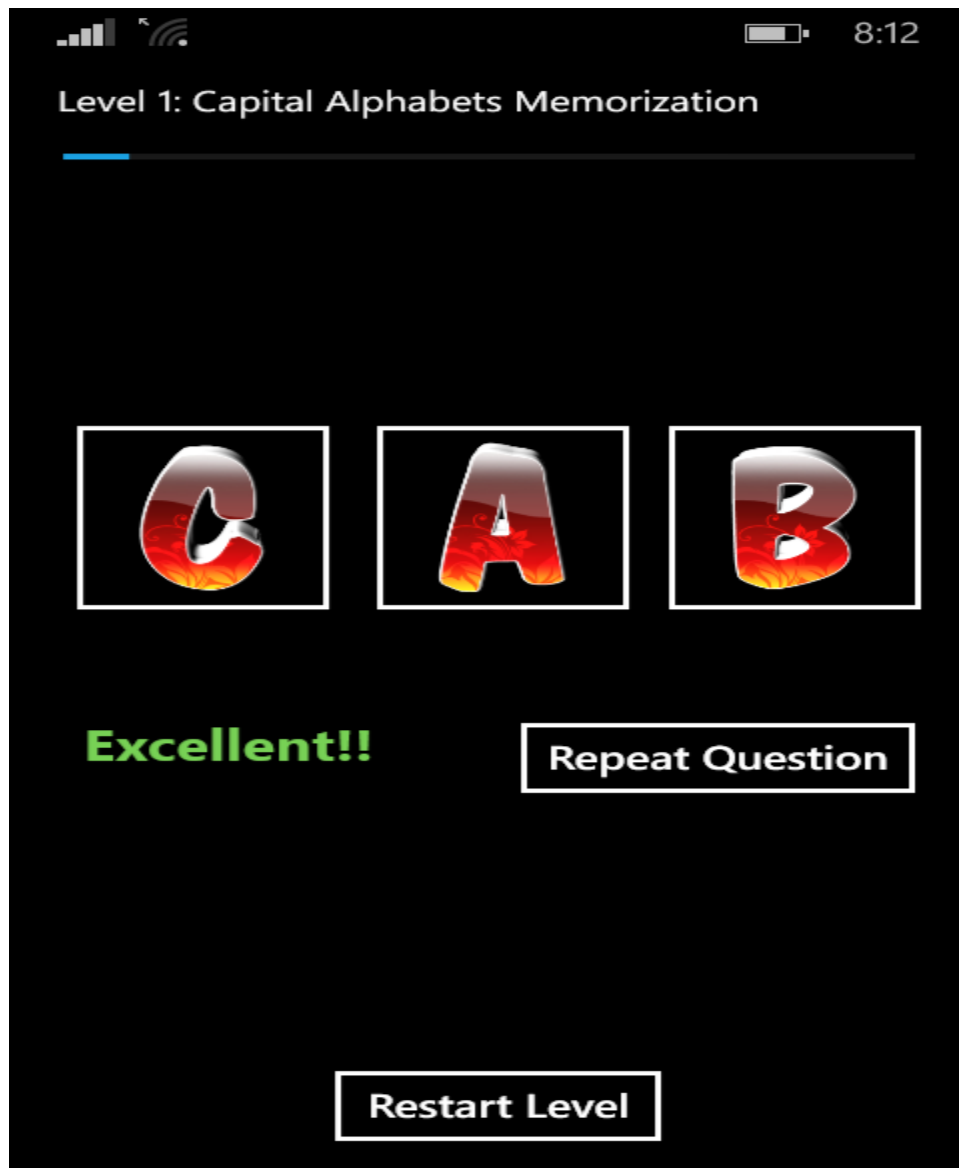


Figure 5.5 Result of Selecting Right Answer

5.6. Level 1 Quiz Selecting Wrong Answer

In this level after selecting one of the given answer if the answer is wrong then system will display a message “You clicked on wrong character”.

The figure is as following:

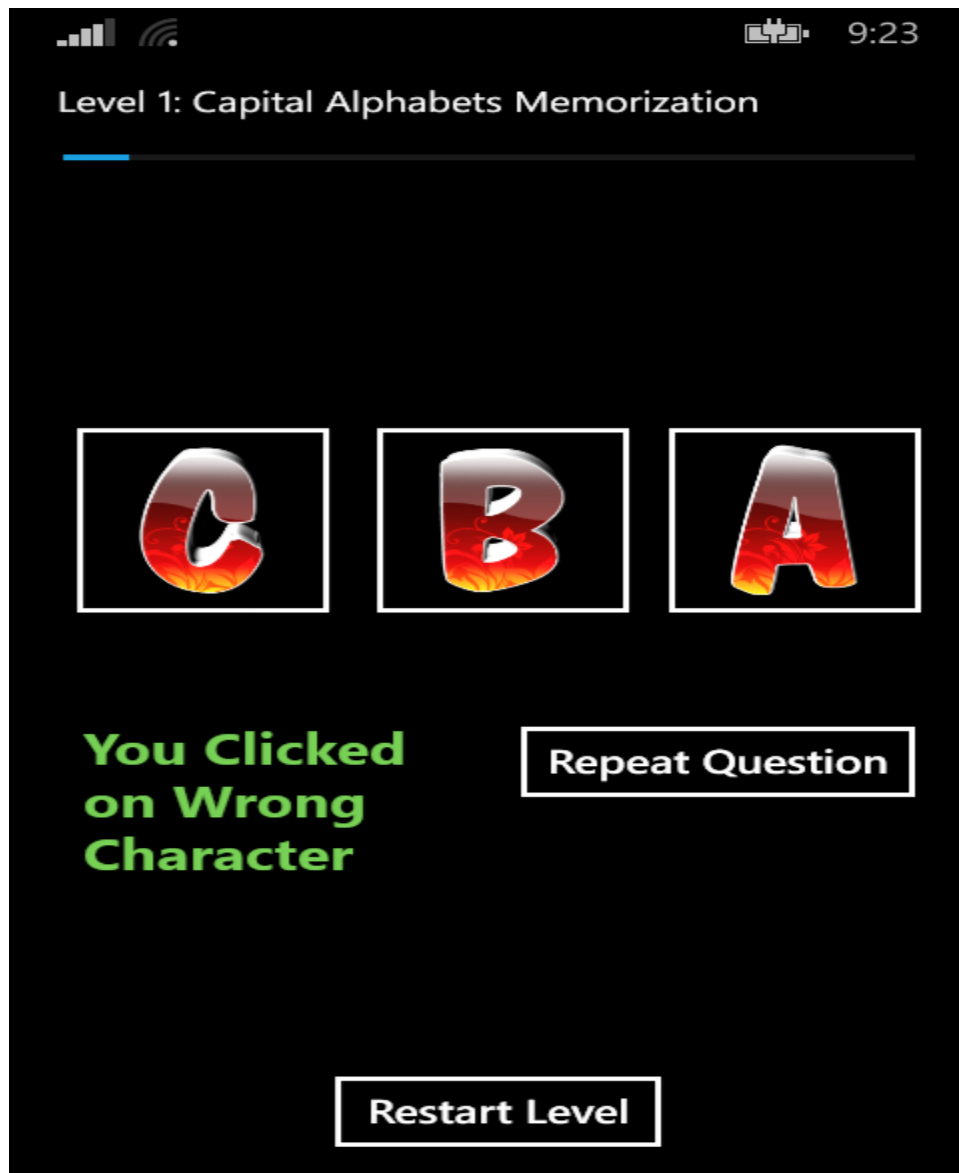


Figure 5.6 Level 1 Quiz Selecting Wrong Answer

5.7. Level 2 Startup

This is the main view of Level 2 startup page. Here user can learn Capital Alphabets from 'a' to 'z'.

The figure is as following:

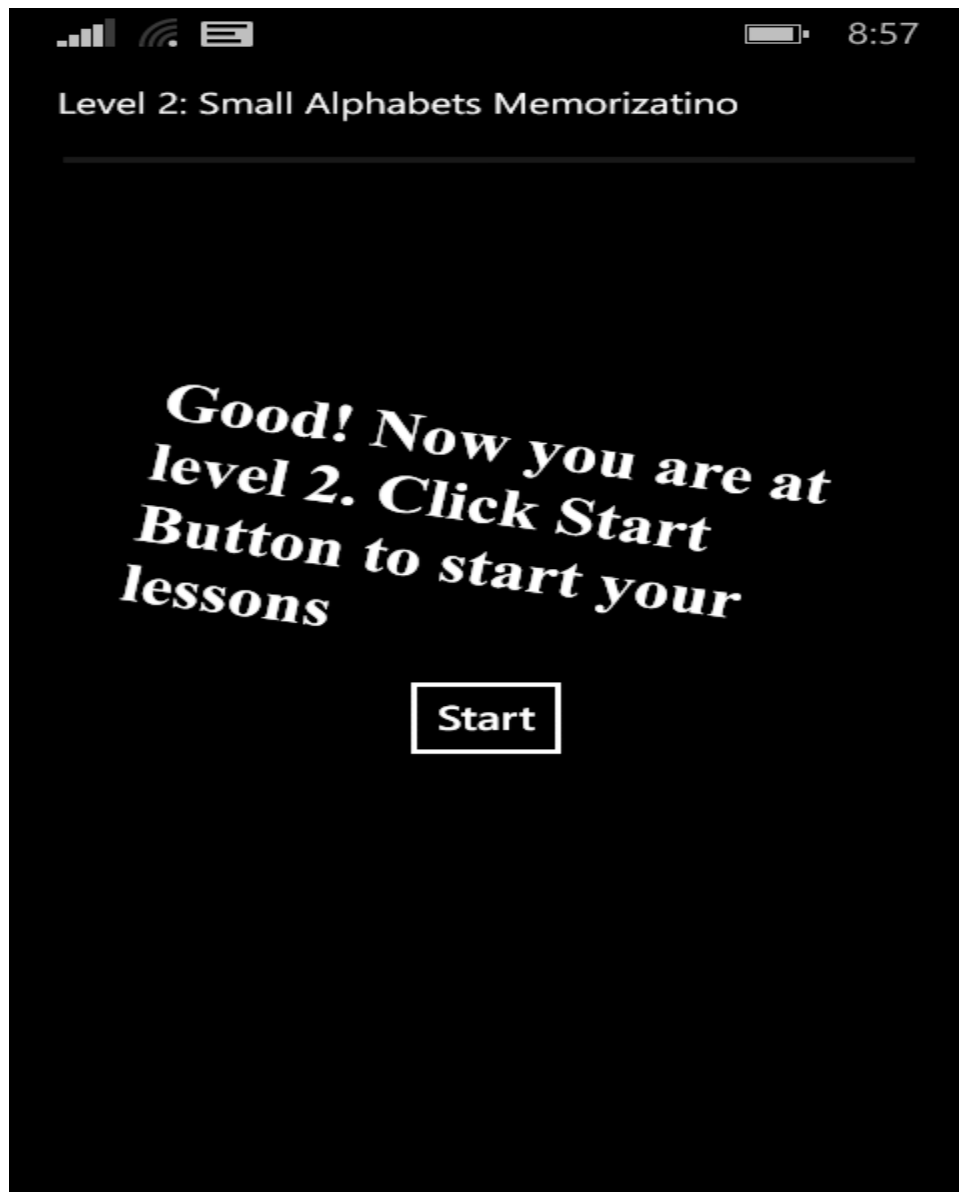


Figure 5.7 Level 2 Startup

5.8. Starting Level 2

Level 2 is the place where user can learn and memorize Small Alphabets from 'a' to 'z'. This level contains quizzes as well. It is adding alphabets in ascending order. The figure is as following:

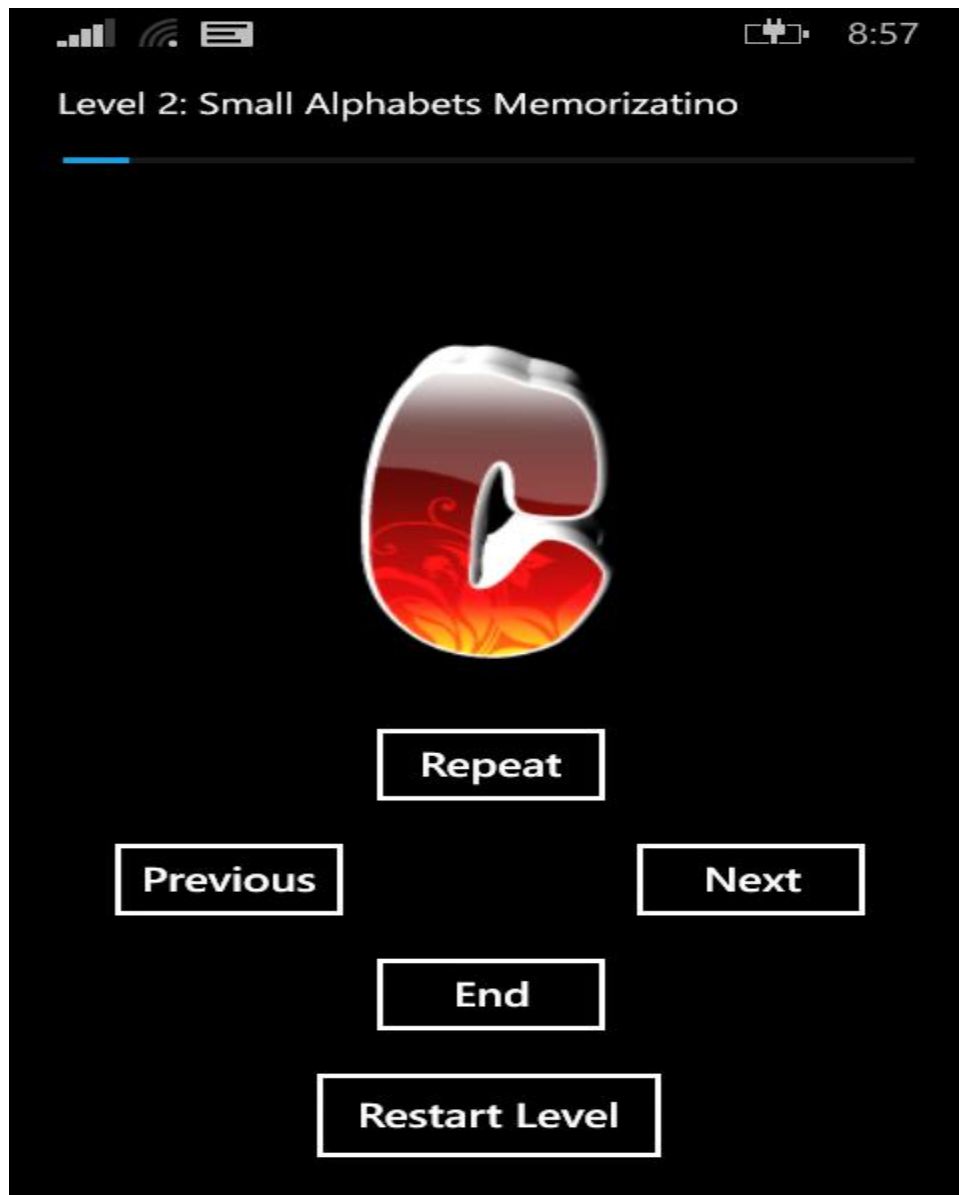


Figure 5.8 Starting Level 2

5.9. Level 2 Quiz

This is the screenshot of quiz from Level 2. In level 2 quiz 3 alphabets will be displayed and then system will pronounce one of them. The user is supposed to click on the right one.

The figure is as following:

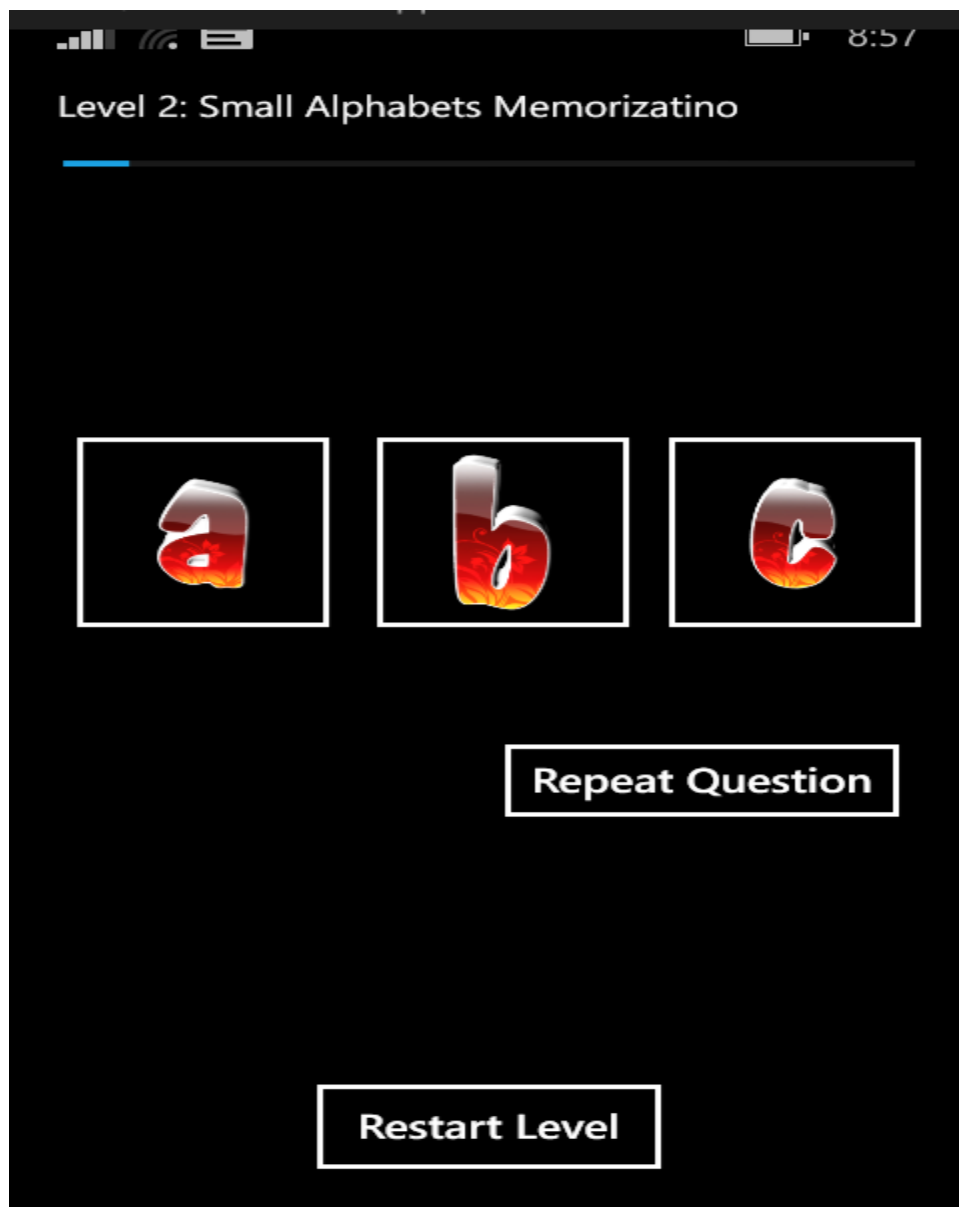


Figure 5.9 Level 2 Quiz

5.10. Level 2 Quiz Selecting Right Answer

In this level after selecting one of the given answer if the answer is right then system will display and message “Excellent”.

The figure is as following:

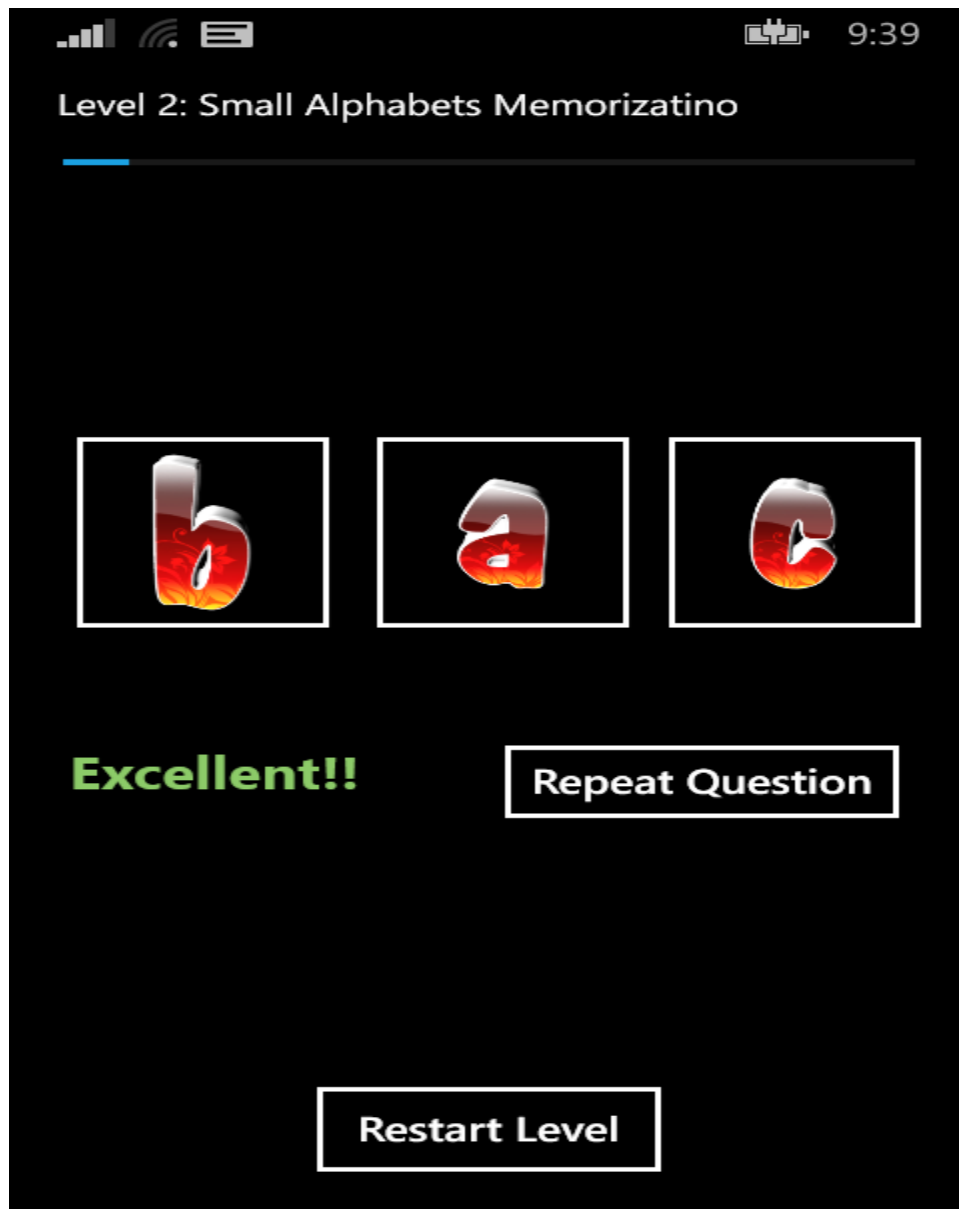


Figure 5.10 Level 2 Quiz Selecting Right Answer

5.11. Level 2 Quiz Selecting Wrong Answer

In this level after selecting one of the given answer if the answer is wrong then system will display and message “You Clicked on wrong Character”.

The figure is as following:

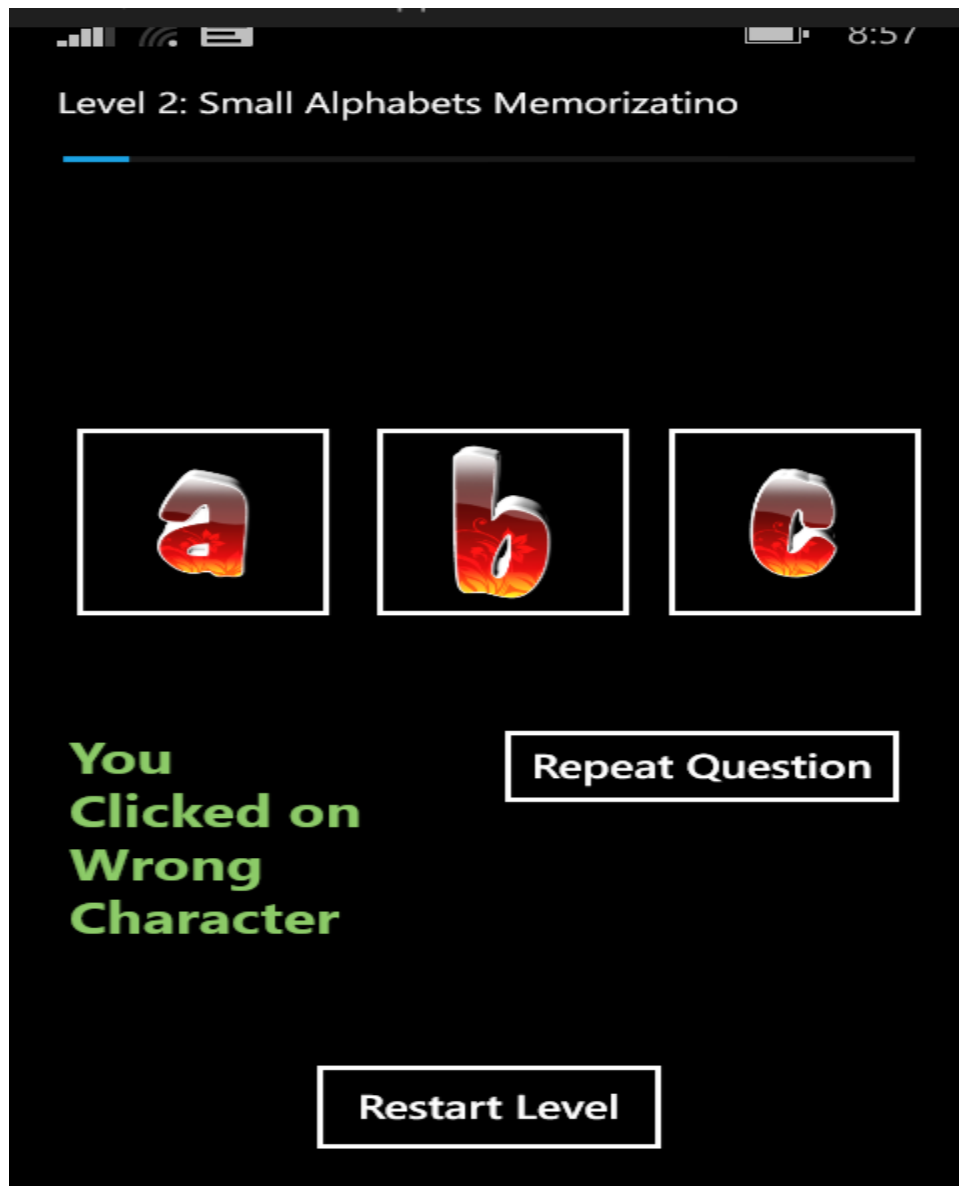


Figure 5.11 Level 2 Quiz Selecting Wrong Answer

5.12. Level 3 Alphabets Comparison

This is the main view of Level 3. In Level 3 we have to compare capital alphabets with the small alphabets.

The figure is as following:

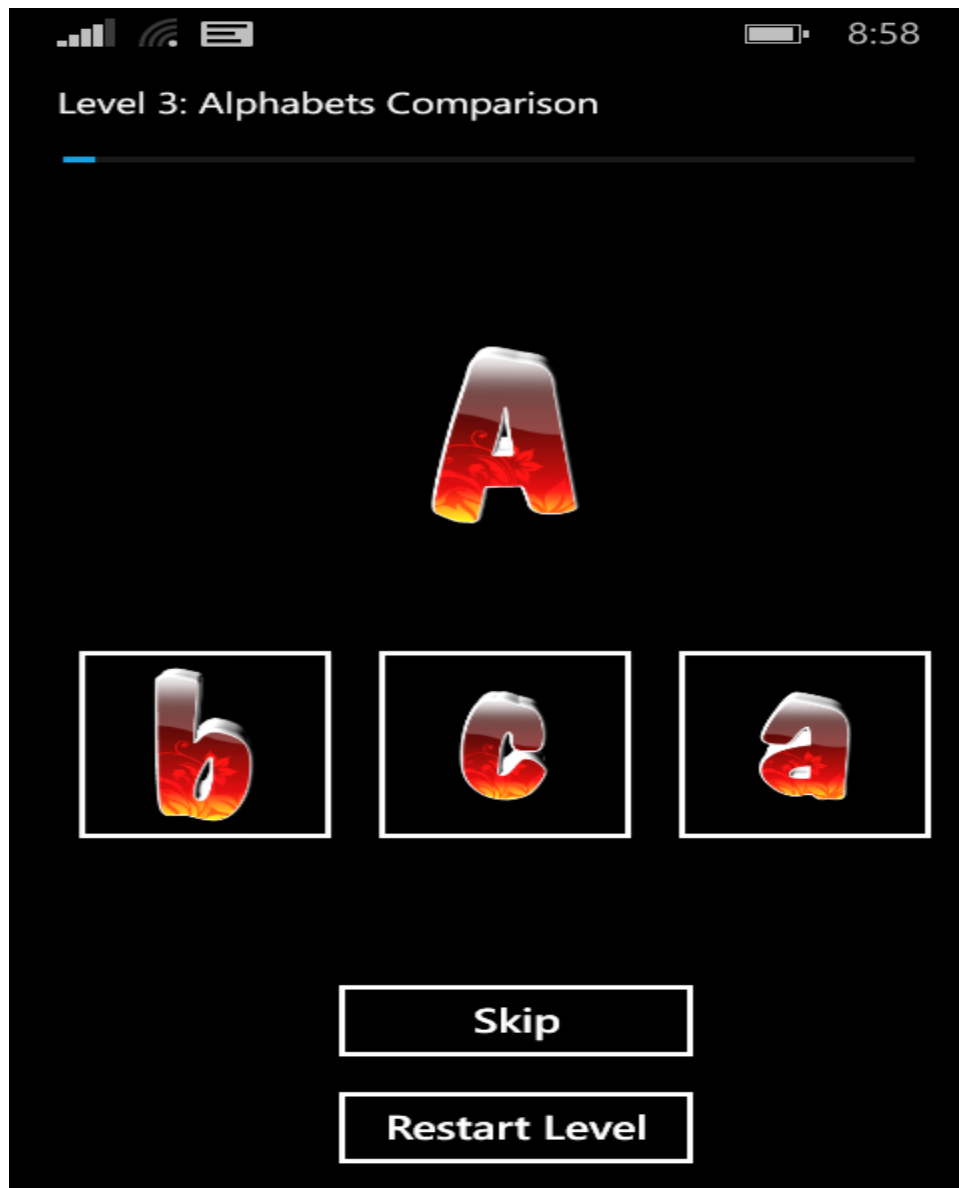


Figure 5.12 Level 3 Alphabets Comparison

5.13. Level 4 Alphabets Ordering

This is the main view of Level 4. In Level 4 we have to arrange alphabets in ascending order.

The figure is as following:

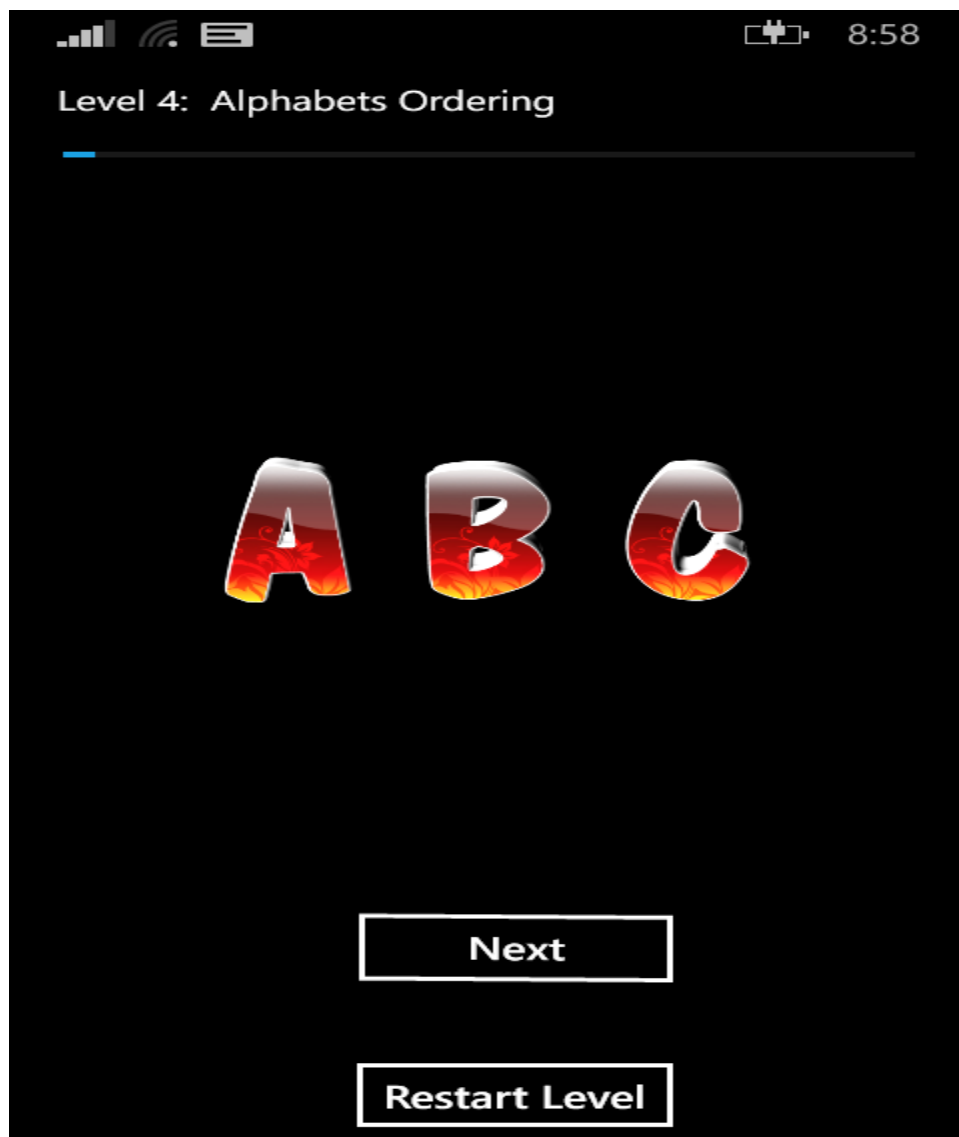


Figure 5.13 Level 4 Alphabets Ordering

5.14. Level 4 Quiz Alphabets Ordering

This is the main view of Level 4 quiz. In Level 4 quiz we have to arrange given alphabets in ascending order.

The figure is as following:

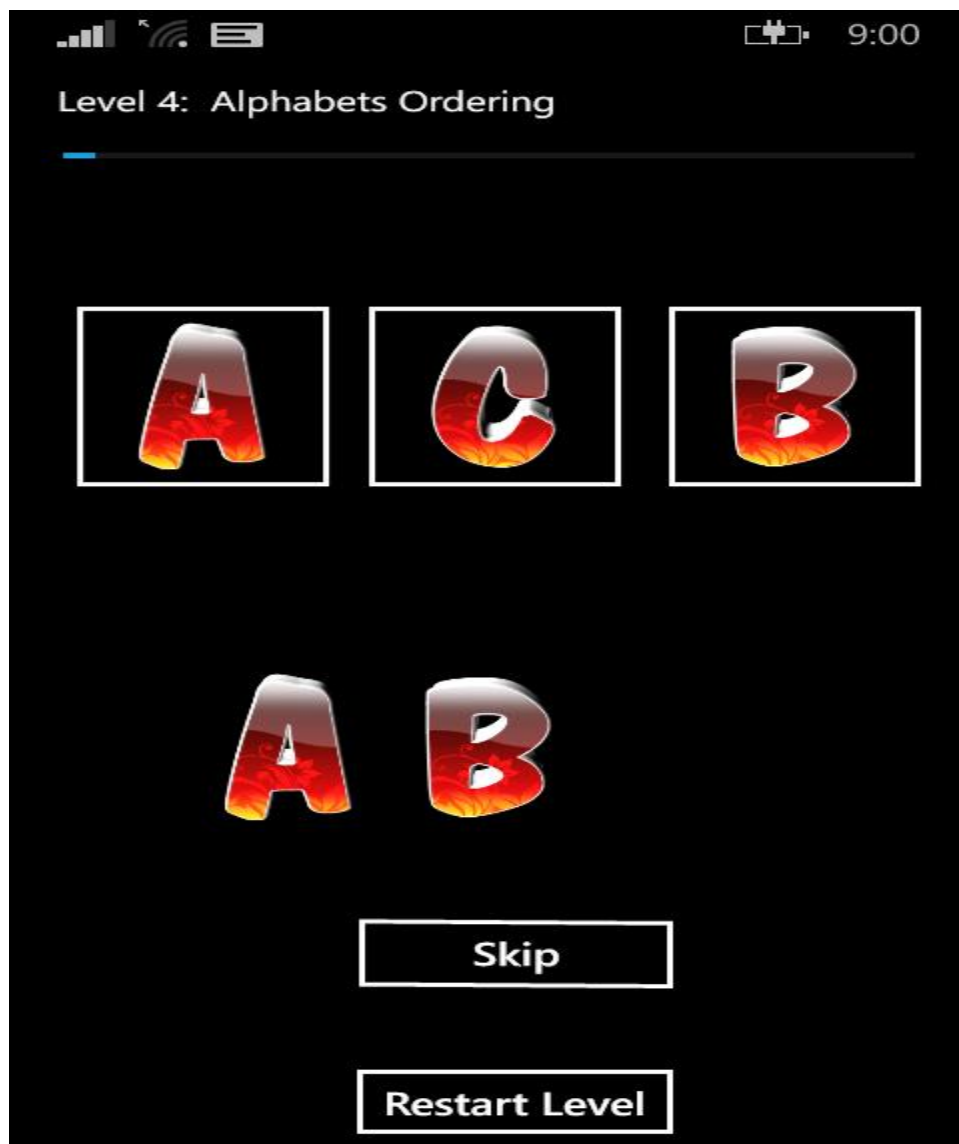


Figure 5.14 Level 4 Quiz Alphabets Ordering

5.15. Level 5 Advance Alphabets Ordering

This is the main view of Level 5. In Level 5 we have to arrange given alphabets in ascending order but this time its number of alphabets are 6.

The figure is as following:

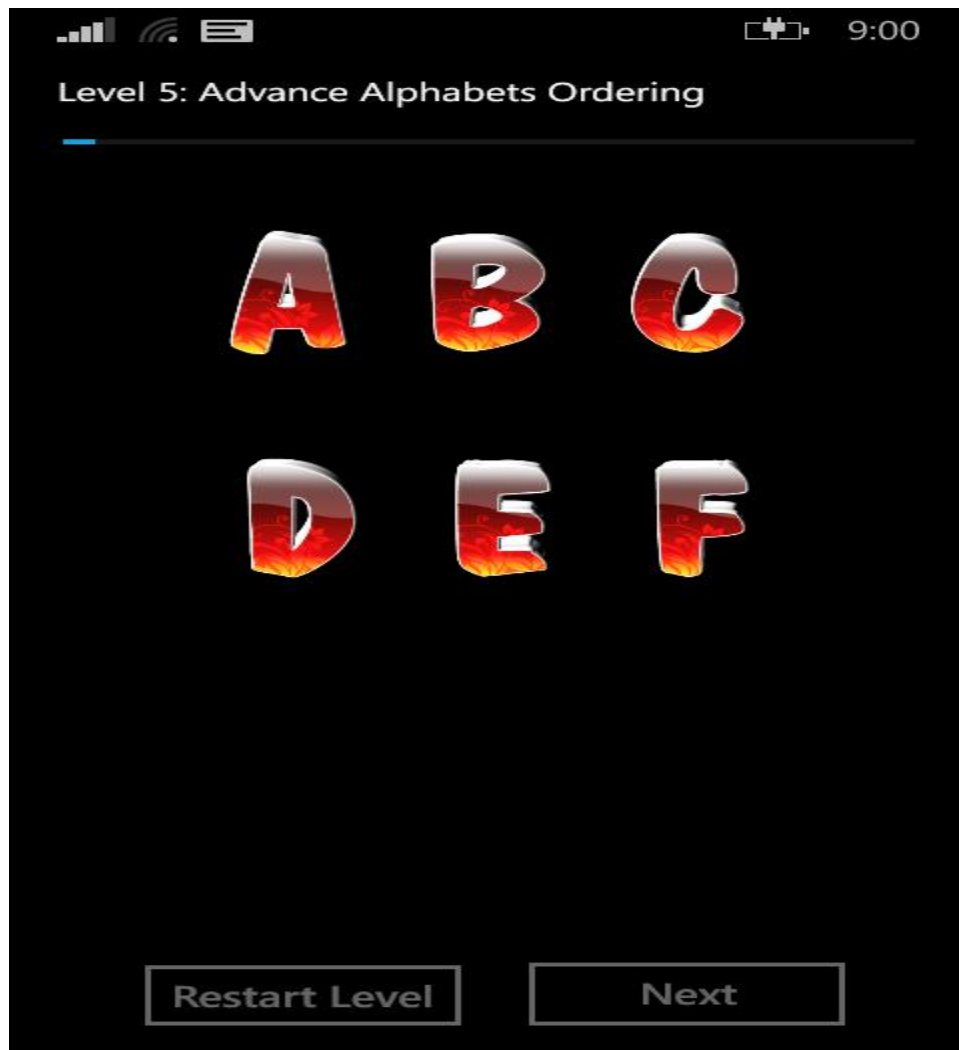


Figure 5.15 Level 5 Advance Alphabets Ordering

5.16. Level 5 Quiz Advance Alphabets Ordering

This is the main view of Level 5 quiz. In Level 5 quiz we have to arrange given 6 alphabets in ascending order.

The figure is as following:

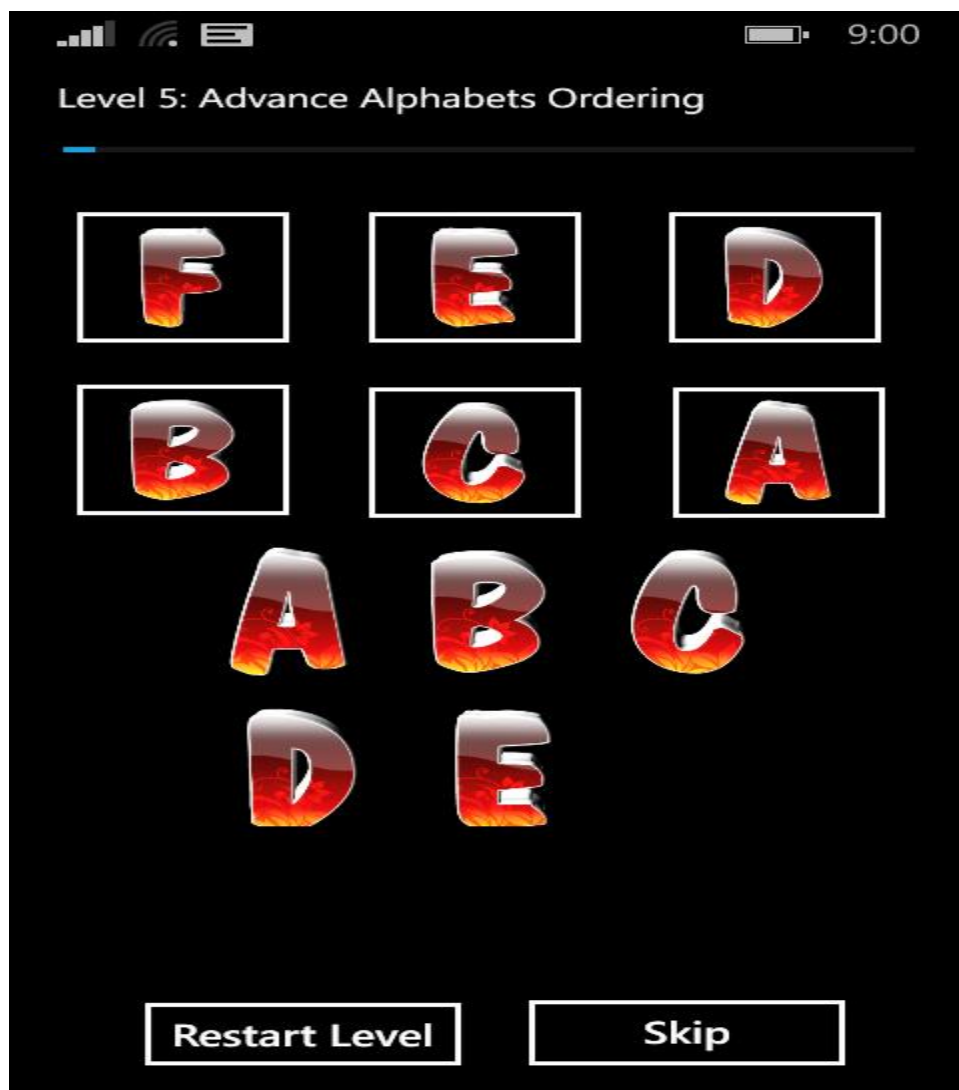


Figure 5.16 Level 5 Quiz Advance Alphabets Ordering

5.17. Level 6 Speech Recognition

This is the main view of Level 6. In Level 6 we have to speak instead of touching just like in the previous levels.

The figure is as following:

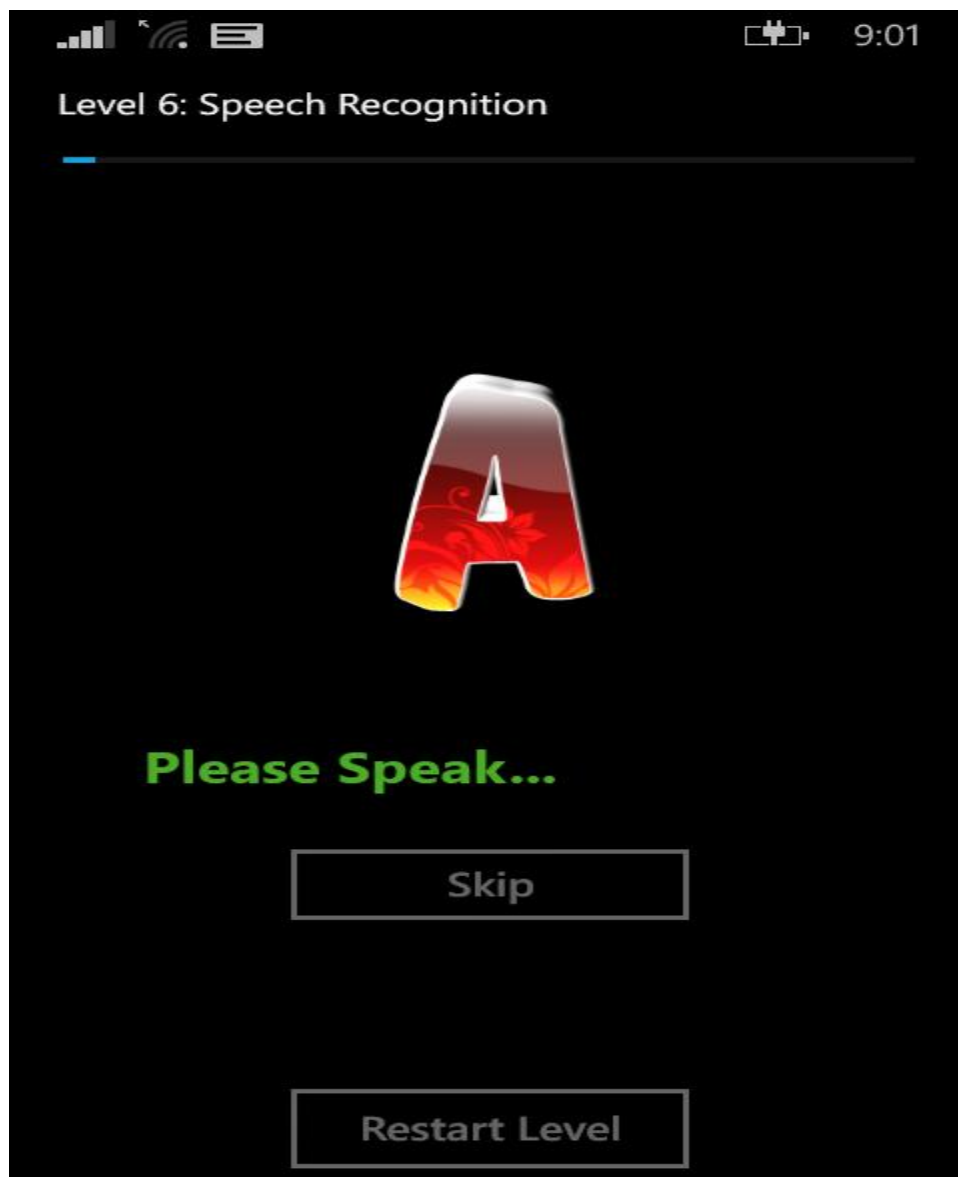


Figure 5.17 Level 6 Speech Recognition

References

[1] UML Diagrams editor.

<https://creately.com/>

[2] Some coding help

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[3] Images

<http://www.google.com/>